EX03-050C-US.patentin.txt
SEQUENCE LISTING

<110> EXELIXIS, INC.

<120> RABS AS MODIFIERS OF THE p53 PATHWAY AND METHODS OF USE

<130> EX03-050C-US

<150> US 60/394,992
<151> 2002-07-10

<150> US 60/410,988
<151> 2002-09-16

<160> 42

<170> PatentIn version 3.2

<210> 1
<211> 1498
<212> DNA
<213> Homo sapiens

<400> 1
ggcacgagga taaagcctga ggcggcggca gcggcggagt tggcggcttg gagagctcgg   60

gagagttccc tggaaccaga acttggacct tctcgcttct gtcctccgtt tagtctcctc   120

ctcggcggga gccctcgcga cgcgcccggc ccggagcccc cagcgcagcg gccgcgtttg   180

aaggatgacc tctaggaaga aagtgttgct gaaggttatc atcctgggag attctggagt   240

cgggaagaca tcactcatga accagtatgt gaataagaaa ttcagcaatc agtacaaagc   300

cacaatagga gctgactttc tgaccaagga ggtgatggtg gatgacaggc tagtcacaat   360

gcagatatgg gacacagcag gacaggaacg gttccagtct ctcggtgtgg ccttctacag   420

aggtgcagac tgctgcgttc tggtatttga tgtgactgcc cccaacacat tcaaaaccct   480

agatagctgg agagatgagt ttctcatcca ggccagtccc cgagatcctg aaaacttccc   540

atttgttgtg ttgggaaaca agattgacct cgaaaacaga caagtggcca caaagcgggc   600

acaggcctgg tgctacagca aaaacaacat tccctacttt gagaccagtg ccaaggaggc   660

catcaacgtg gagcaggcgt tccagacgat tgcacggaat gcacttaagc aggaaacgga   720

ggtggagctg tacaacgaat ttcctgaacc tatcaaactg gacaagaatg accgggccaa   780

ggcctcggca gaaagctgca gttgctgagg gggcagtgag agttgagcac agagtccttc   840

acaaaccaag aacacacgta ggccttcaac acaattcccc tctcctcttc caaacaaaac   900

atacattgat ctctcacatc cagctgccaa aagaaaaccc catcaaacac agttacaccc   960

cacatatctc gcacacacac acacacacgc acacacacac acacagatct gacgtaatca   1020

aactccagcc cttgcccgtg atggctcctt ggggtctgcc tgcccaccca catgagcccg   1080

cgagtatggc agcaggacaa gccagcggtg gaagtcattc tgatatggag ttggcattgg   1140

aagcttattc tttttgttca ctggagagag agagaactgt ttacagttaa tctgtgtcta   1200

Page 1

```
attatctgat ttttttattt ggtcttgtgg tcttttttacc ccccctttcc cctccctcct   1260

tgaaggctac cccttgggaa ggctggtgcc ccatgcccca ttacaggctc acacccagtc   1320

tgatcaggct gagttttgta tgtatctatc tgttaatgct tgttactttt aactaatcag   1380

atctttttac agtatccatt tattatgtaa tgcttcttag aaaagaatct tatagtacat   1440

gttaatatat gcaaccaatt aaaatgtata aattagtgta aaaaaaaaa aaaaaaaa     1498
```

<210> 2
<211> 624
<212> DNA
<213> Homo sapiens

<400> 2
```
atgacctcta ggaagaaagt gttgctgaag gttatcatcc tgggagattc tggagtcggg    60

aagacatcac tcatgaacca gtatgtgaat aagaaattca gcaatcagta caaagccaca   120

ataggagctg actttctgac caaggaggtg atggtggatg acaggctggt cacaatgcag   180

atatgggaca cagcaggaca ggaacggttc cagtctctcg gtgtggcctt ctacagaggt   240

gcagactgct gcgttctggt atttgatgtg actgccccca acacattcaa aaccctagat   300

agctggagag atgagtttct cgtccaggcc agtccccgag atcctgaaaa cttcccattt   360

gttgtgttgg gaaacaaggt tgacctcgaa aacagacaag tggccacaaa gcgggcacag   420

gcctggtgct acagcaaaaa caacattccc tactttgaga ccagtgccaa ggaggccatc   480

aacgtggagc aggcgttcca gacgattgca cggaatgcac ttaagcagga aacggaggtg   540

gagctgtaca acgaatttcc tgaacctatc aaactggaca agaatgaccg ggccaaggcc   600

tcggcagaaa gctgcagttg ctga                                           624
```

<210> 3
<211> 800
<212> DNA
<213> Homo sapiens

<400> 3
```
tgcccccaac acattcaaaa ccctagatag ctggagagat gagtttctca tccaggccag    60

tccccgagat cctgaaaact tcccatttgt tgtgttggga aacaagattg acctcgaaaa   120

cagacaagtg gccacaaagc gggcacaggc ctggtgctac agcaaaaaca acattcccta   180

ctttgagacc agtgccaagg aggccatcaa cgtggagcag gcgttccaga cgattgcacg   240

gaatgcactt aagcaggaaa cggaggtgga gctgtacaac gaatttcctg aacctatcaa   300

actggacaag aatgaccggg ccaaggcctc ggcagaaagc tgcagttgct gaggggggcag   360

tgagagttga gcacagagtc cttcacaaac caagaacaca cgtaggcctt caacacaatt   420

cccctctcct cttccaaaca aaacatacat tgatctctca catccagctg ccaaaagaaa   480
```

```
acccccatcaa acacagttac accccacata tctctcacac acacacacac acgcacacac      540

acacacacag atctgacgta atcaaactcc agcccttgcc cgtgatggct ccttggggtc      600

tgcctgccca cccacatgag cccgcgagta tggcagcagg acaagccagc ggtggaagtc      660

attctgatat ggagttggca ttggaagctt attctttttg ttcactggag agagagagaa      720

ctgtttacag ttaatctgtg tctaattatc tgattttttt tattggtctt gtggtctttt      780

tacccccccct ttccctccc                                                  800
```

<210> 4
<211> 2190
<212> DNA
<213> Homo sapiens

<400> 4
```
ataaagcctg aggcggcggc agcggcggag ttggcggctt ggagagctcg ggagagttcc       60

ctggaaccag aactcggacc ttctcgcttc tgtcctccgt ttagtctcct cctcggcggg      120

agccctcgcg acgcgcccgg cccggagccc ccagcgcagc ggccgcgttt gaaggatgac      180

ctctaggaag aaagtgttgc tgaaggttat catcctggga gattctggag tcgggaagac      240

atcactcatg aaccagtatg tgaataagaa attcagcaat cagtacaaag ccacaatagg      300

agctgacttt ctgaccaagg aggtgatggt ggatgacagg ctagtcacaa tgcagatatg      360

ggacacagca ggacaggaac ggttccagtc tctcggtgtg gccttctaca gaggtgcaga      420

ctgctgcgtt ctggtatttg atgtgactgc ccccaacaca ttcaaaaccc tagatagctg      480

gagagatgag tttctcatcc aggccagtcc ccgagatcct gaaaacttcc catttgttgt      540

gttgggaaac aagattgacc tcgaaaacag acaagtggcc acaaagcggg cacaggcctg      600

gtgctacagc aaaaacaaca ttccctactt tgagaccagt gccaaggagg ccatcaacgt      660

ggagcaggcg ttccagacga ttgcacggaa tgcacttaag caggaaacgg aggtggagct      720

gtacaacgaa tttcctgaac ctatcaaact ggacaagaat gaccgggcca aggcctcggc      780

agaaagctgc agttgctgag ggggcagtga gagttgagca cagagtcctc cacaaaccaa      840

gaacacacgt aggccttcaa cacaattccc ctctcctctt ccaaacaaaa catacattga      900

tctctcacac ccagctgcca aaagaaaacc ccatcaaaca cagttacacc ccacatatct      960

ctcacacaca cacacacacg cacacacaca cacacagatc tgacgtaatc aaactccagc     1020

ccttgcccgt gatggctcct tggggtctgc ctgcccaccc acatgagccc gcgagtatgg     1080

cagcaggaca agccagcggt ggaagtcatt ctgatatgga gttggcattg gaagcttatt     1140

cttttgttc actggagaga gagagaactg tttacagtta atctgtgtct aattatctga     1200

ttttttttat tggtcttgtg gtctttttac cccccctttc ccctccctcc ttgaaggcta     1260

ccccttggga aggctggtgc cccatgcccc attacaggct cacacccggt ctgatcaggc     1320
```

```
tgagttttgt atgtatctat ctgttaatgc ttgttacttt taactaatca gatctttta    1380

cagtatccat ttattatgta atgcttctta gaaaagaatc ttatagtaca tgttaatata    1440

tgcaaccaat taaaatgtat aaattagtgt aagaaattct tggattatgt gtttaagtcc    1500

tgtaatgcag gcctgtaagg tggagggttg aaccctgttt ggattgcaga gtgttactca    1560

gaattgggaa atccagctag cggcagtatt ctgtacagta gacacaagaa ttatgtacgc    1620

cttttatcaa agacttaaga gccaaaagct tttcatctct ccaggggaaa aactgtctag    1680

ttcccttctg tgtctaaatt ttccaaaacg gttgatttgc ataatacagt ggtatgtgca    1740

atggataaat tgccgttatt tcaaaaatta aaattctcat tttctttctt tttttccc     1800

cctgctccac acttcaaaac tcccgttaga tcagcattct actacaagag tgaaaggaaa    1860

accctaacag atctgtccta gtgattttac ctttgttcta gaaggcgctc ctttcagggt    1920

tgtggtattc ttaggttagc ggagcttttt cctcttttcc ccacccatct ccccaatatt    1980

gcccattatt aattaacctc tttctttggt tggaaccctg gcagttctgc tcccttccta    2040

ggatctgccc ctgcattgta gcttgcttaa cggagcactt ctcctttttc caaaggtcta    2100

cattctaggg tgtgggctga gttcttctgt aaagagatga acgcaatgcc aataaaattg    2160

aacaagaaca atgaaaaaaa aaaaaaaaa                                      2190
```

```
<210>  5
<211>  1358
<212>  DNA
<213>  Homo sapiens

<400>  5
ggccgcgttt gaaggatgac ctctaggaag aaagtgttgc tgaaggttat catcctggga    60

gattctggag tcgggaagac atcactcatg aaccagtatg tgaataagaa attcagcaat    120

cagtacaaag ccacaatagg agctgacttt ctgaccaagg aggtgatggt ggatgacagg    180

ctagtcacaa tgcagatatg ggacacagca ggacaggaac ggttccagtc tctcggtgtg    240

gccttctaca gaggtgcaga ctgctgcgtt ctggtatttg atgtgactgc ccccaacaca    300

ttcaaaaccc tagatagctg gagagatgag tttctcatcc aggccagtcc ccgagatcct    360

gaaaacttcc catttgttgt gttgggaaac aagattgacc tcgaaaacag acaagtggcc    420

acaaagcggg cacaggcctg gtgctacagc aaaaacaaca ttccctactt tgagaccagt    480

gccaaggagg ccatcaacgt ggagcaggcg ttccagacga ttgcacggaa tgcacttaag    540

caggaaacgg aggtggagct gtacaacgaa tttcctgaac ctatcaaact ggacaagaat    600

gaccgggcca aggcctcggc agaaagctgc agttgctgag ggggcagtga gagttgagca    660

cagagtcctt cacaaaccaa gaacacacgt aggccttcaa cacaattccc ctctcctctt    720

ccaaacaaaa catacattga tctctcacat ccagctgcca aaagaaaacc ccatcaaaca    780
```

```
cagttacacc ccacatatct ctcacacaca cacacacacg cacacacaca cacacagatc    840

tgacgtaatc aaactccagc ccttgcccgt gatggctcct tggggtctgc ctgcccaccc    900

acatgagccc gcgagtatgg cagcaggaca agccagcggt ggaagtcatt ctgatatgga    960

gttggcattg gaagcttatt ctttttgttc actggagaga gagagaactg tttacagtta   1020

atctgtgtct aattatctga ttttttttat tggtcttgtg gtctttttac cccccctttc   1080

ccctccctcc ttgaaggcta ccccttggga aggctggtgc cccatgcccc attacaggct   1140

cacacccagt ctgatcaggc tgagttttgt atgtatctat ctgttaatgc ttgttacttt   1200

taactaatca gatctttta cagtatccat ttattgtaat gcttcttaga aaagaatctt   1260

atagtacatg ttaatatatg caaccaatta aaatgtataa attagtgtaa aaaaaaaaa   1320

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaa                           1358
```

```
<210>   6
<211>   1498
<212>   DNA
<213>   Homo sapiens

<400>   6
ggcacgagga taaagcctga ggcggcggca gcggcggagt tggcggcttg gagagctcgg     60

gagagttccc tggaaccaga acttggacct tctcgcttct gtcctccgtt tagtctcctc    120

ctcggcggga gccctcgcga cgcgcccggc ccggagcccc cagcgcagcg gccgcgtttg    180

aaggatgacc tctaggaaga aagtgttgct gaaggttatc atcctgggag attctggagt    240

cgggaagaca tcactcatga accagtatgt gaataagaaa ttcagcaatc agtacaaagc    300

cacaatagga gctgactttc tgaccaagga ggtgatggtg gatgacaggc tagtcacaat    360

gcagatatgg gacacagcag gacaggaacg gttccagtct ctcggtgtgg ccttctacag    420

aggtgcagac tgctgcgttc tggtatttga tgtgactgcc cccaacacat tcaaaaccct    480

agatagctgg agagatgagt ttctcatcca ggccagtccc cgagatcctg aaaacttccc    540

atttgttgtg ttgggaaaca agattgacct cgaaaacaga caagtggcca caaagcgggc    600

acaggcctgg tgctacagca aaaacaacat tccctacttt gagaccagtg ccaaggaggc    660

catcaacgtg gagcaggcgt ccagacgat tgcacggaat gcacttaagc aggaaacgga    720

ggtggagctg tacaacgaat ttcctgaacc tatcaaactg gacaagaatg accgggccaa    780

ggcctcggca gaaagctgca gttgctgagg gggcagtgag agttgagcac agagtccttc    840

acaaaccaag aacacacgta ggccttcaac acaattcccc tctcctcttc caaacaaaac    900

atacattgat ctctcacatc cagctgccaa aagaaaaccc catcaaacac agttacaccc    960

cacatatctc gcacacacac acacacacgc acacacacac acacagatct gacgtaatca   1020

aactccagcc cttgcccgtg atggctcctt ggggtctgcc tgcccaccca catgagcccg   1080
```

```
cgagtatggc agcaggacaa gccagcggtg gaagtcattc tgatatggag ttggcattgg    1140
aagcttattc tttttgttca ctggagagag agagaactgt ttacagttaa tctgtgtcta    1200
attatctgat ttttttattt ggtcttgtgg tcttttttacc cccctttcc cctccctcct    1260
tgaaggctac cccttgggaa ggctggtgcc ccatgcccca ttacaggctc acacccagtc    1320
tgatcaggct gagttttgta tgtatctatc tgttaatgct tgttactttt aactaatcag    1380
atcttttac agtatccatt tattatgtaa tgcttcttag aaaagaatct tatagtacat    1440
gttaatatat gcaaccaatt aaaatgtata aattagtgta aaaaaaaaa aaaaaaa    1498
```

<210> 7
<211> 1498
<212> DNA
<213> Homo sapiens

<400> 7
```
ggcacgagga taaagcctga ggcggcggca gcggcggagt tggcggcttg gagagctcgg    60
gagagttccc tggaaccaga acttggacct tctcgcttct gtcctccgtt tagtctcctc    120
ctcggcggga gccctcgcga cgcgcccggc ccggagcccc cagcgcagcg gccgcgtttg    180
aaggatgacc tctaggaaga aagtgttgct gaaggttatc atcctgggag attctggagt    240
cgggaagaca tcactcatga accagtatgt gaataagaaa ttcagcaatc agtacaaagc    300
cacaatagga gctgactttc tgaccaagga ggtgatggtg gatgacaggc tagtcacaat    360
gcagatatgg gacacagcag gacaggaacg gttccagtct ctcggtgtgg ccttctacag    420
aggtgcagac tgctgcgttc tggtatttga tgtgactgcc cccaacacat tcaaaaccct    480
agatagctgg agagatgagt ttctcatcca ggccagtccc cgagatcctg aaaacttccc    540
atttgttgtg ttgggaaaca agattgacct cgaaaacaga caagtggcca caaagcgggc    600
acaggcctgg tgctacagca aaaacaacat tccctacttt gagaccagtg ccaaggaggc    660
catcaacgtg gagcaggcgt tccagacgat tgcacggaat gcacttaagc aggaaacgga    720
ggtggagctg tacaacgaat ttcctgaacc tatcaaactg gacaagaatg accgggccaa    780
ggcctcggca gaaagctgca gttgctgagg gggcagtgag agttgagcac agagtccttc    840
acaaaccaag aacacacgta ggccttcaac acaattcccc tctcctcttc caaacaaaac    900
atacattgat ctctcacatc cagctgccaa aagaaaaccc catcaaacac agttacaccc    960
cacatatctc gcacacacac acacacacgc acacacac acacagatct gacgtaatca    1020
aactccagcc cttgcccgtg atggctcctt ggggtctgcc tgcccaccca catgagcccg    1080
cgagtatggc agcaggacaa gccagcggtg gaagtcattc tgatatggag ttggcattgg    1140
aagcttattc tttttgttca ctggagagag agagaactgt ttacagttaa tctgtgtcta    1200
attatctgat ttttttattt ggtcttgtgg tcttttttacc cccctttcc cctccctcct    1260
```

```
tgaaggctac cccttgggaa ggctggtgcc ccatgcccca ttacaggctc acacccagtc   1320

tgatcaggct gagttttgta tgtatctatc tgttaatgct tgttactttt aactaatcag   1380

atctttttac agtatccatt tattatgtaa tgcttcttag aaaagaatct tatagtacat   1440

gttaatatat gcaaccaatt aaaatgtata aattagtgta aaaaaaaaa aaaaaaaa     1498
```

<210> 8
<211> 624
<212> DNA
<213> Homo sapiens

<400> 8
```
atgacctcta ggaagaaagt gttgctgaag gttatcatcc tgggagattc tggagtcggg    60

aagacatcac tcatgaacca gtatgtgaat aagaaattca gcaatcagta caaagccaca   120

ataggagctg actttctgat caaggaggtg atggtggatg acaggctagt cacgatgcag   180

atatgggaca cagcaggaca ggaacggttc cagtctctcg gtgtggcctt ctacagaggt   240

gcagactgct gcgttctggt atttgatgtg actgccccca acacattcaa aaccctagat   300

agctggagag atgagtttct catccaggcc agtccccgag atcctgaaaa cttcccattt   360

gttgtgttgg gaaacaagat tgacctcgaa aacagacaag tggccacaaa gcgggcacag   420

gcctggtgct acagcaaaaa caacattccc tactttgaga ccagtgccaa ggaggccatc   480

aacgtggagc aggcgttcca gacgattgca cggaatgcac ttaagcagga aacggaggag   540

gagctgtaca acgaatttcc tgaacctatc aaactggaca agaatgaccg ggccaaggcc   600

tcggcagaaa gctgcagttg ctga                                        624
```

<210> 9
<211> 1548
<212> DNA
<213> Homo sapiens

<400> 9
```
gtggcgtggc ttcaacagac tttcttttgc ctgtctttgt cccagagcct cttccctggc    60

cctgctgaga ccactgctct aagaagagac caccagactg agagaggact cccagctgcc   120

ctcagagcgg aggccgagtg ctgcacagcc acagctgctc tgaagccctt ccatgaatcc   180

ccggaagaag gtggacctga aactcattat cgtcggagcc attggtgtgg aaagacctc    240

cctccttcac caatatgtgc acaagacgtt ttatgaggaa taccagacca cactggggggc   300

cagcatcctc tccaagatta tcatattggg tgacacaact ttgaagttac agatctggga   360

cacgggcggt caggagcggt tccgctccat ggtgtccacg ttctacaagg gctccgatgg   420

ctgcatccta gcttttgatg tcaccgacct ggagtctttt gaagccctgg atatctggcg   480

gggtgatgtc ctggccaaga ttgtccccat ggagcagtcc taccccatgg tgttgttggg   540

gaacaagatc gatctggcag accggaaggt accccaggaa gtagctcaag gctggtgtag   600
```

```
agagaaagat attccttact ttgaagtcag tgccaagaat gacatcaatg tggtgcaagc    660

gtttgagatg ctggccagta gggctctgtc gaggtaccag agcatcttag aaaatcacct    720

cacagaatcc atcaagctct cgccagacca gtcaaggagc agatgctgct gacctccaga    780

cgcctgctct ggaagcccag aaacagagcc tgccccgagc ctggtcaccc caggcttgag    840

aacaggtgac catccccctc cagccccact gcctgcccaa gcacagtgca gggggcctaa    900

gctctgcggc agagcccttg accctggtgc tgggcccaga gtcagagggc agccctggc     960

tcaggctgag tatagtgaga gcgtctggat gaagcccgga atgtcagagc caaaccctgg   1020

tcctgcagaa gtcacagttt ccgcagtggc tccagctttc cccacccatc caccctcaa    1080

acactcccgc tccagaacac acatctccgc agaccggcca ctgattggag tctggttaca   1140

tcctcctgtg gacagacctt cctcacccgc tcccacctca caccctcag ccacaagcaa    1200

agctttggac aatggcacag ctcagcctcc ttcaacgagc agactaagga gtaaaggtct   1260

ggaccccaca tgctgggccc gcctcagctc ctggcagaag ctgtcgtgcc tgagaccccc   1320

tctgctccct ccagggtaga agactgaggg agcacaggag aagccacaag ggaccatggc   1380

tcattcctcc ttgctgggtg ctcaggcaac tcacataaat ctctgagtct caatttgttt   1440

atctgtcctg tgggggtgag atgtgccttg cccctgtat cacagtgtgg ttttgaggac    1500

cagaagctgt gcttaaatcc agtagctgtt gtcaaaaaaa aaaaaaaa               1548
```

```
<210>  10
<211>  1571
<212>  DNA
<213>  Homo sapiens

<400>  10
gggaagtggc gtggcttcaa cagactttct tttgcctgtc tttgtcccag agcctcttgc     60

ctggccctgc tgagaccact gctctaagaa gagaccacca gactgagaga ggactcccag    120

ctgccctcag agcggaggcc gagtgctgca cagccacagc tgctctgaag cccttccatg    180

aatccccgga agaaggtgga cctgaaactc attatcgtcg gagccattgg tgtgggaaag    240

acctccctcc ttcaccaata tgtgcacaag acgttttatg aggaatacca gaccacactg    300

ggggccagca tcctctccaa gattatcata ttgggtgaca caactttgaa gttacagatc    360

tgggacacgg gcggtcagga gcggttccgc tccatggtgt ccacgttcta caagggctcc    420

gatggctgca tcctagcttt tgatgtcacc gacctggagt cttttgaagc cctggatatc    480

tggcggggtg atgtcctggc caagattgtc cccatggagc agtcctaccc catggtgttg    540

ttggggaaca agatcgatct ggcagaccgg aaggtacccc aggaagtagc tcaaggctgg    600

tgtagagaga aagatattcc ttactttgaa gtcagtgcca gaatgacat caatgtggtg    660

caagcgtttg agatgctggc cagtagggct ctgtcgaggt accagagcat cttagaaaat    720
```

```
cacctcacag aatccatcaa gctctcgcca gaccagtcaa ggagcagatg ctgctgacct    780

ccagacgcct gctctggaag cccagaaaca gagcctgccc cgagcctggt caccccaggc    840

ttgagaacag gtgaccatcc ccctccagcc ccactgcctg cccaagcaca gtgcaggggg    900

cctaagctct gcggcagagc ccttgaccct ggtgctgggc ccagagtcag agggcagccc    960

ctggctcagg ctgagtatag tgagagcgtc tggatgaagc ccggaatgtc agagccaaac   1020

cctggtcctg cagaagtcac agtttccgca gtggctccag ctttccccac ccatccaccc   1080

ctcaaacact cccgctccag aacacacatc tccgcagacc ggccactgat tggagtctgg   1140

ttacatcctc ctgtggacag accttcctca cccgctccca cctcacaccc ctcagccaca   1200

agcaaagctt tggacaatgg cacagctcag cctccttcaa cgagcagact aaggagtaaa   1260

ggtctggacc ccacatgctg ggcccgcctc agctcctggc agaagctgtc gtgcctgaga   1320

ccccctctgc tccctccagg gtagaagact gagggagcac aggagaagcc acaagggacc   1380

atggctcatt cctccttgct gggtgctcag gcaactcaca taaatctctg agtctcaatt   1440

tgtttatctg tcctgtgggg gtgagatgtg ccttgccccc tgtatcacag tgtggttttg   1500

aggaccagaa gctgtgctta aatccagtag ctgttgtcaa tatgcatttt atttacttct   1560

ttgaccaaaa a                                                        1571
```

```
<210>    11
<211>    1106
<212>    DNA
<213>    Homo sapiens

<400>    11
ggcacgaggc tctgtcctca ttgcgcccag acgggccggc ccagagctcc cgggtcgtct     60

ttcgtgtggc cgcgagacac tcttgcactc ctgtaatgag cctggcactg tgatgaaaca    120

cttttcccgt gtcgtttgag tgcatcttct caacaaccct aggagggttc ttgaagcttt    180

tgagattaac aatggcagga aaatcatcac tttttaaagt aattctcctt ggagatggtg    240

gagttgggaa gagttcactt atgaacagat atgtaactaa taagtttgat acccagctct    300

tccatacaat aggtgtggaa tttttaaata aagatttgga agtggatgga cattttgtta    360

ccatgcagat ttgggacacg gcaggtcagg agcgattccg aagcctgagg acaccatttt    420

acagaggttc tgactgctgc ctgcttactt ttagtgtcga tgattcacaa agcttccaga    480

acttaagtaa ctggaagaaa gaattcatat attatgcaga tgtgaaagag cctgagagct    540

ttccttttgt gattctgggt aacaagattg acataagcga acggcaggtg tctacagaag    600

aagcccaagc ttggtgcagg gacaacggcg actatcctta ttttgaaaca agtgcaaaag    660

atgccacaaa tgtggcagca gcctttgagg aagcggttcg aagagttctt gctaccgagg    720

ataggtcaga tcatttgatt cagacagaca cagtcaatct tcaccgaaag cccaagccta    780
```

```
gctcatcttg ctgttgattg ttagattgtt gatgcattct aaccaactca cacatataca      840

caaaatcaac atggggatgg agaagagaat tagcgtttgc agcagtgtat catctactaa      900

taaaattaaa ctaatgttgc tgcttcatta gttggtggga aagggacac atccactctt      960

ggaggaatat atttactcaa taatggcacc ttacatttat aaattgtaac agttgtctaa     1020

taacgtttct ttaatttaaa tatgtaagtt gcagagctaa taaatgaaat gaccaagact     1080

ttaattataa aaaaaaaaa aaaaaa                                           1106
```

```
<210>   12
<211>   1176
<212>   DNA
<213>   Homo sapiens

<400>   12
gccatgttgt tccctccgcg ctggacggga gcagctggag cgggagcctg gctgcgctac       60

cgcggctgcc tcctgctgtg caggtcccᴄg accctctctc tgtcctcatt gcgcccagac      120

gggccggccc agagctcccg ggtcgtcttt cgtgtggccg cgagacactc ttgcactcct      180

gtaatgagcc tggcactgtg atgaaacact tttcccgtgt cgtttgagtg catcttctca      240

acaaccctag gagggttctt gaagcttttg agattaacaa tggcaggaaa atcatcactt      300

tttaaagtaa ttctccttgg agatggtgga gttgggaaga gttcacttat gaacagatat      360

gtaactaata agtttgatac ccagctcttc catacaatag gtgtggaatt tttaaataaa      420

gatttggaag tggatggaca ttttgttacc atgcagattt gggacacggc aggtcaggag      480

cgattccgaa gcctgaggac accattttac agaggttctg actgctgcct gcttactttt      540

agtgtcgatg attcacaaag cttccagaac ttaagtaact ggaagaaaga attcatatat      600

tatgcagatg tgaaagagcc tgagagcttt ccttttgtga ttctgggtaa caagattgac      660

ataagcgaac ggcaggtgtc tacagaagaa gcccaagctt ggtgcaggga caacggcgac      720

tatccttatt ttgaaacaag tgcaaagat gccacaaatg tggcagcagc ctttgaggaa      780

gcggttcgaa gagttcttgc taccgaggat aggtcagatc atttgattca gacagacaca      840

gtcaatcttc accgaaagcc caagcctagc tcatcttgct gttgattgtt agattgttga      900

tgcattctaa ccaactcaca catatacaca aaatcaacat ggggatggag aagagaatta      960

gcgtttgcag cagtgtatca tctactaata aaattaaact aatgttgctg cttcattagt     1020

tggtgggaga agggacacat ccactcttgg aggaatatat ttactcaata atggcacctt     1080

acatttataa attgtaacag ttgtctaata cgtttctttt aatttaaata tgtaagttgc     1140

agagctaata aatgaaatga ccaagacttt aattat                              1176
```

```
<210>   13
<211>   1106
```

<212> DNA
<213> Homo sapiens

<400> 13
```
ggcacgaggc tctgtcctca ttgcgcccag acgggccggc ccagagctcc cgggtcgtct      60
ttcgtgtggc cgcgagacac tcttgcactc ctgtaatgag cctggcactg tgatgaaaca     120
cttttcccgt gtcgtttgag tgcatcttct caacaaccct aggagggttc ttgaagcttt     180
tgagattaac aatggcagga aaatcatcac tttttaaagt aattctcctt ggagatggtg     240
gagttgggaa gagttcactt atgaacagat atgtaactaa taagtttgat acccagctct     300
tccatacaat aggtgtggaa tttttaaata aagatttgga agtggatgga cattttgtta     360
ccatgcagat ttgggacacg gcaggtcagg agcgattccg aagcctgagg acaccatttt     420
acagaggttc tgactgctgc ctgcttactt ttagtgtcga tgattcacaa agcttccaga     480
acttaagtaa ctggaagaaa gaattcatat attatgcaga tgtgaaagag cctgagagct     540
ttcctttgt gattctgggt aacaagattg acataagcga acggcaggtg tctacagaag     600
aagcccaagc ttggtgcagg acaacggcg actatcctta ttttgaaaca agtgcaaaag     660
atgccacaaa tgtggcagca gcctttgagg aagcggttcg aagagttctt gctaccgagg     720
ataggtcaga tcatttgatt cagacagaca cagtcaatct tcaccgaaag cccaagccta     780
gctcatcttg ctgttgattg ttagattgtt gatgcattct aaccaactca cacatataca     840
caaaatcaac atggggatgg agaagagaat tagcgtttgc agcagtgtat catctactaa     900
taaaattaaa ctaatgttgc tgcttcatta gttggtggga gaagggacac atccactctt     960
ggaggaatat atttactcaa taatggcacc ttacatttat aaattgtaac agttgtctaa    1020
taacgtttct ttaatttaaa tatgtaagtt gcagagctaa taaatgaaat gaccaagact    1080
ttaattataa aaaaaaaaa aaaaaa                                          1106
```

<210> 14
<211> 606
<212> DNA
<213> Homo sapiens

<400> 14
```
atggcaggaa aatcttcact ttttaaagta attctccttg gagatggtgg agttgggaag      60
agttcactta tgaacagata tgtaactaat aagtttgata cccagctctt ccatacaata     120
ggtgtggaat ttttaaataa agatttggaa gtggatggac attttgttac catgcagatt     180
tgggacacgg caggtcagga gcgattccga agcctgagga caccatttta cagaggttct     240
gactgctgcc tgcttacttt tagtgtcgat gattcacaaa gcttccagaa cttaagtaac     300
tggaagaaag aattcatata ttatgcagat gtgaaagagc ctgagagctt cctttttgtg     360
attctgggta acaagattga cataagcgaa cggcaggtgt ctacagaaga agcccaagct     420
```

```
tggtgcaggg acaacggcga ctatccttat tttgaaacaa gtgcaaaaga tgccacaaat      480

gtggcagcag cctttgagga agcggttcga agagttcttg ctaccgagga taggtcagat      540

catttgattc agacagacac agtcaatctt caccgaaagc ccaagcctag ctcatcttgc      600

tgttga                                                                 606
```

```
<210>   15
<211>   1049
<212>   DNA
<213>   Homo sapiens

<400>   15
cgagcggcac gtgtcaggcc accgaggtcc aagccgcact tgctgcccca ttgaggacga      60

ggaggcagca ggagcagtga cggtgactct aaggagccgg attcccggca cgcagagctg      120

acctgcctgg cacccgcggc cctctcctgt ttccttccca ttgtgttggc accctaaaaa      180

gaaagaataa aacaacaaca ggaaaaaaag gaaaatattt aaattgtgac aaaaacccac      240

tgggttctct tggttacaaa ctccttccct tctggtgctg caaaaatgag tgggaaatcc      300

ctgctcttaa aggtcattct cttgggtgat ggtggagttg ggaaaagttc gcttatgaac      360

cgttacgtaa ccaacaaatt tgactcccag gcttttcaca ccataggggt agagttctta      420

aatcgagatc tggaggtaga tggacgcttt gtaaccctcc agatctggga cactgcaggg      480

caggaacgtt tcaagagcct taggacaccc ttctacaggg gagcagactg ctgcctcttg      540

accttcagcg tggatgatcg gcagagcttc gagaatcttg gtaactggca gaaagaattt      600

atttactatg cggatgtgaa ggaccctgag catttcccct ttgtagttct gggtaacaag      660

gtagacaaag aggataggca agtgactact gaggaggcac aaacctggtg catggagaat      720

ggggattacc cttatttaga aactagtgcc aaagatgata ctaatgtgac agtggccttt      780

gaagaagctg tcaggcaggt gctggctgta gaggaacagc tggagcattg catgttgggt      840

cacaccattg acttgaacag tggctccaaa gcagggtctt cgtgctgtta aagataggga      900

gccttttaaa aatgtgcccc aaattgatca gtcagtagtg taagaataac tgtgcccctc      960

taagagtgca cacacgca cacaagaggg taagagacaa ggttctgatt gtgaaacaga      1020

gcctttcaaa ttgaagtgta gattgattt                                       1049
```

```
<210>   16
<211>   3786
<212>   DNA
<213>   Homo sapiens

<400>   16
agcggggtgt gcggcggcag cggcgggcgc gagcggcagc tgtcaggcca ccgaggtcca      60

agccgcactt gctgccccat tgaggacgag gaggcagcag gagcagtgac ggtgactcta      120

aggagccgga ttcccggcac gcagagctga cctgcctggc acccgcggcc ctctcctgtt      180
```

```
tccttcccat tgtgttggca ccctaaaaag aaagaataaa acaacaacag gaaaaaaagg   240

aaaatattta aattgtgaca aaaacccact gggttctctt ggttacaaac tccttccctt   300

ctggtgctgc aaaaatgagt gggaaatcca tgctcttaaa ggtcattctc ttgggtgatg   360

gtggagttgg gaaaagttcg cttatgaacc gttacgtaac caacaaattt gactcccagg   420

cttttcacac catagggta gagttcttaa atcgagatct ggaggtagat ggacgctttg   480

taaccctcca gatctgggac actgcagggc aggaacgttt cagagcctta ggcacccctt   540

ctacaggga gcagactgct gcctcttgac cttcagcgtg gatgatcggc agagcttcga   600

gaatcttggt aactggcaga aagaatttat ttactatgcg gatgtgaagg accctgagca   660

tttcccctt gtagttctgg gtaacaaggt agacaaagag gataggcaag tgactactga   720

ggaggcacaa acctggtgca tggagaatgg ggattaccct tatttagaaa ctagtgccaa   780

agatgatact aatgtgacag tggcctttga agaagctgtc aggcaggtgc tggctgtaga   840

ggaacagctg gagcattgca tgttgggtca caccattgac ttgaacagtg gctccaaagc   900

agggtcttcg tgctgttaaa gatagggagc cttttaaaaa tgtgccccaa attgatcagt   960

cagtagtgta agaataactg tgccgctcta agagtgcaca cacgcaca caagagggta  1020

agagacaagg ttctgattgt gaaacagagc ctttcaaatt gaagtgtaga ttgatttaaa  1080

aaaattaaaa attaaaaaaa atgaagctct atcaagccaa gtgtattttg cgtgatttct  1140

gctatttccc cttcttgtgt gtctcaggac atatcagaaa attttagtcc tgagacagtt  1200

aaatatttt taaatcacag tttaaaccta gaacccagct gcatgaagga gttaaagagc  1260

tacaactatt tcttaaagtg ttccattaat caactaacaa atgtcactat cagactcttg  1320

ccaagcagtt tctgacattt ctgccaaagg gaaaaaaat cagactttga gctgtattac  1380

aataaaaata ataatgcaaa taaggattcc taggcttgaa ttaaagaagt tgtaatgatt  1440

aggagtgcaa aagtataatg atatacactg acttgtttaa atccttatgt atggttcgct  1500

cccatctgag cttttcaaaa aatcccatct caataagaga tactctaatg acactggcaa  1560

ttgattatac ttcttgtgtt tgaagtcata ggatactagt gaatggatta tgcttaaata  1620

tgccaaccac ctttgcaaat aaatggttgg tctgctttta attcctaagt ctacttttgc  1680

tgcatagaga tgttgcttct ctgacaacct cttaccaatt tagcaatgct gcttagtata  1740

tgaatttgga tgcagtgctc tctgctcatc atttagatgg tcctttgatc caacatgctg  1800

ggctcatgga gaaggcttca taaaagattg ggggataatg aacttttctc acaaggctcc  1860

ttaactcaaa tatttattgc agaagaagga actggtttct tatatgttgc actgtatgtt  1920

caactagcct aattaggaca ttgaaagtga cagaagagca gatcttaacc cagtgttaga  1980

atgaatttcc cataaacaga gttgtccaac agtggaatgg actgccttaa tagtgagctc  2040
```

```
cctgcctctg aaaatattca ctggatgacc atctgttaga ataccataaa aagattttct    2100

gtgctggcta catgttcaat ataaagtcct ttctggctct aagttctatg aatatataaa    2160

ctacatcagt gccatgctgt ggttagattt atctgatgat aacagctaag actatggaga    2220

gggactttaa aaattctcaa accattctgt gatcaatctt taacagcaac tacatagctc    2280

ttccttttgc ttttgcactg tggcaggaaa aattcttgag ctctgagtaa tctttatgtg    2340

actgataaaa aacatcttaa agctcccatg ttaaaatata aaaatggttt gacaattttt    2400

gattaccatg actgtcagtt atatactata ttatgaatat gcagtgtggt tcttgttggt    2460

tgatctgttt accctgcata gattttaatc tgtactttaa aacatctatg ataaaaatag    2520

tgacagacag aaattaccca aaaaagagac ctaggccagg aagggggtgg gagctttcat    2580

aggaatacag cctagaactc tccattgtag ccacgtatgg aatcagcctt acttacatgt    2640

aggacctttg tgctttaaga gctctgggac atattggcca aatagaaaag aagaggacag    2700

tatttcaact cagtcatact caatatttcc aattaagata taatcctgac accattgttc    2760

aattaacttt gacgccagaa gtcaaagcca gaactgggac cccacagctc ttaagtactg    2820

gtccctatcc tgcctatgcc tatagccagc cacactggtt tccaagttct gtgatcattt    2880

tgctacaatc atgttagggt gaaaatctgt acgtcagaac tgttaaatgc taattatttt    2940

taagtgcatg agacctgggg ccttctcttt ctacttgcac tctgcttata ctagtttcta    3000

tttgtagatc tcaggccttc atcataaaga cctctatcaa ctcacaaaag tatttgtctc    3060

tattagagtg gcatgtggtc atttgagtaa aaaaaaaaaa attacatggg tatcggattc    3120

ataggcatcc tgtccatcta agacaagtgt taattttatt ggcccatcag ctggagcccc    3180

tttcgtctta gccataccat tgttttctac caaattacca ctcaatatct taatgaaagc    3240

actcaacatt aagtgacata aacagtggca tttgggtaag caacactcag tggggtgctg    3300

acatacagtt tgggtaagat taaaaaacac caaaggctga aatctgtgag taccaagaac    3360

tgtgcatata ggtttagaaa ttgactgtgt accctagaat gtgcagtgta atattttcaa    3420

taggtgtttt tttaaagaac actagatttt tggaataata tatttctaat taggactata    3480

ctgtttttca atggtctgtt aaaacatcat acagaatatt tatttagttt attgtcgtgt    3540

attggctaac tttcaggggc ctcagattcc atatgtcttc agtggattga tgaatatcag    3600

gttaatttgt gcctgcccca gccatctcta ctttattctg aggtattcca caatcctctt    3660

gttgcaggtg ctgctaaaaa aaactcaaaa ttgtgtatca aatattttct ttcaactgta    3720

aaaaatcatc tgtgttaaag tgaataaaaa gtgcattttg aataaccagc aaaaaaaaaa    3780

aaaaaa                                                              3786
```

<210> 17
<211> 2191

```
<212>  DNA
<213>  Homo sapiens

<400>  17
atcctacggg ccacgcctgg gccttgctgc caggaagctt cggccccgca gctcggcttg      60

ctgcggtctc aggtttcttt acctccggaa agaagaatat tggccccttg aattctggaa     120

gttcattgaa gagtctgaaa ttagggactt atttcaaatt tggacatggc tagtcgaggc     180

gcaacaagac ccaacgggcc aaatactgga aataaaatat gccagttcaa actagtactt     240

ctgggagagt ccgctgttgg caaatcaagc ctagtgcttc gttttgtgaa aggccaattt     300

catgaatttc aagagagtac cattggggct gcttttctaa cccaaactgt atgtcttgat     360

gacactacag taaagtttga aatatgggat acagctggtc aagaacgata ccatagccta     420

gcaccaatgt actacagagg agcacaagca gccatagttg tatatgatat cacaaatgag     480

gagtcctttg caagagcaaa aaattgggtt aaagaacttc agaggcaagc aagtcctaac     540

attgtaatag ctttatcggg aaacaaggcc gacctagcaa ataaaagagc agtagatttc     600

caggaagcac agtcctatgc agatgacaat agtttattat tcatggagac atccgctaaa     660

acatcaatga atgtaaatga aatattcatg gcaatagcta aaaaattgcc aaagaatgaa     720

ccacaaaatc caggagcaaa ttctgccaga ggaagaggag tagaccttac cgaacccaca     780

caaccaacca ggaatcagtg ttgtagtaac taaacctcta gtttgaacta gctggaatag     840

tcttctgctt cctaaatgtt aataacaatg gaattggagc atttaaccag cccagtatga     900

cttccaaaag aagagactta tgatagagtc aagtttctaa tacagaatta ttttaagtgt     960

tttgaactta atttttaata acatgcatgg gtccctctca ctaatgtttc aacaataggg    1020

aaaaatgaga actatgtgga cacttgtttc attggaaggt taggggggaat aatttctcat    1080

cactaggaat atagacaaat gactgtctgg gcccacacag ttaaccagcc catttctcca    1140

cactggtaca gtagtcacct gtgaaaaaaa aaattggaac ttactaattt gggcttttca    1200

aaaacattct ttgtttagaa ggagattcta aagttattta tgatgcttag ccatagtatt    1260

caggcaaatg ttcatttctc ctggtacctg tatttaaaat gtacattcca cattttaata    1320

aattaaccac aagaaaataa tcccacatat acaaggtcag gggtggggaa gagtattaat    1380

ggtatcttaa ttatacccag tctggttttt tttttaaat ggggtaaaaa tcaaatgcaa    1440

ccccatcttg ttttaggaat tttgagaact aataaatgca ccttaatggt cagtgttcct    1500

ttcaaacatg tgagttcttt aacaaaaatg aaataaacca ggtgtctgtg atttctaatt    1560

aatcaccgct ggccattaca caggttttgt tgtttggggt ggggaggggg cttttgttcc    1620

cttttgacat aatatagtca atgcactaac aattatgtat attcaaactt gattatttta    1680

aattcgatct tcagctgtac tgtaaatagg gtactgcatt gtagtctcca tatctgtatt    1740

acttttctgt aatatttaag agttgcttaa aagcatacaa aatgtactgt tactaaaaca    1800
```

```
gctaattatt tctctctccc cctttgacag gaaggggctt cagttgttcc tccatggcta   1860

gaaccataat aaacaatgta cccgtaattt gtaacataaa gtattgcaat atgttagtaa   1920

caatcttgca gccttccttt ccaaagttca ttttattttg atcagttcag tatattgcac   1980

taattatttt aggtattttc attatatgaa agctaccatg tgtcagagat gatttaatct   2040

atttaagtgt tggactgcta ggagaacttg tacatttatg ataatgcaga attaggaaaa   2100

cggttcacca gtgtttagtt ttatattgag gtgctcaggt tggaataaag tggtataaaa   2160

agcaaaaaaa aaaaaaaaaa aaaaaaaaaa a                                  2191
```

```
<210>  18
<211>  2232
<212>  DNA
<213>  Homo sapiens

<400>  18
ctaagagcag gcgacgccgc cgccgccacc accaccgcca tagatacact ctcatcctac    60

gggccacgcc tgggccttgc tgccaggaag cttcggcccc gcagctcggc ttgctgcggt   120

ctcaggtttc tttacctcca gaaagaagaa tattggcccc ttgaattctg gaagttcatt   180

gaagagtctg aaattaggga cttatttcaa atttggacat ggctagtcga ggcgcaacaa   240

gacccaacgg gccaaatact ggaaataaaa tatgccagtt caaactagta cttctgggag   300

agtccgctgt tggcaaatca agcctagtgc ttcgttttgt gaaaggccaa tttcatgaat   360

ttcaagagag taccattggg gctgcttttc taacccaaac tgtatgtctt gatgacacta   420

cagtaaagtt tgaaatatgg gatacagctg gtcaagaacg ataccatagc ctagcaccaa   480

tgtactacag aggagcacaa gcagccatag ttgtatatga tatcacaaat gaggagtcct   540

ttgcaagagc aaaaaattgg gttaaagaac ttcagaggca agcaagtcct aacattgtaa   600

tagctttatc gggaaacaag gccgacctag caaataaaag agcagtagat ttccaggaag   660

cacagtccta tgcagatgac aatagtttat tattcatgga gacatccgct aaaacatcaa   720

tgaatgtaaa tgaaatattc atggcaatag ctaaaaaatt gccaagaat gaaccacaaa    780

atccaggagc aaattctgcc agaggaagag gagtagacct taccgaaccc acacaaccaa   840

ccaggaatca gtgttgtagt aactaaacct ctagtttgaa ctagctggaa tagtcttctg   900

cttcctaaat gttaataaca atggaattgg agcatttaac cagcccagta tgacttccaa   960

aagaagagac ttatgataga gtcaagtttc taatacagaa ttattttaag tgttttgaac  1020

ttaattttta ataacatgca tgggtccctc tcactaatgt ttcaacaata gggaaaaatg  1080

agaactatgt ggacacttgt ttcattggaa ggttaggggg aataatttct catcactagg  1140

aatatagaca aatgactgtc tgggcccaca cagttaacca gcccatttct ccacactggt  1200

acagtagtca cctgtgaaaa aaaaaattgg aacttactaa tttgggcttt tcaaaaacat  1260
```

```
tctttgtttta gaaggagatt ctaaagttat ttatgatgct tagccatagt attcaggcaa    1320

atgttcattt ctcctggtac ctgtatttaa aatgtacatt ccacatttta ataaattaac    1380

cacaagaaaa taatcccaca tatacaaggt caggggtggg gaagagtatt aatggtatct    1440

taattatacc cagtctggtt tttttttttt aaatggggta aaaatcaaat gcaaccccat    1500

cttgttttag gaattttgag aactaataaa tgcaccttaa tggtcagtgt tcctttcaaa    1560

catgtgagtt ctttaacaaa aatgaaataa accaggtgtc tgtgatttct aattaatcac    1620

cgctggccat tacacaggtt ttgttgtttg gggtggggag ggggcttttg ttcccttttg    1680

acataatata gtcaatgcac taacaattat gtatattcaa acttgattat tttaaattcg    1740

atcttcagct gtactgtaaa tagggtactg cattgtagtc tccatatctg tattactttt    1800

ctgtaatatt taagagttgc ttaaaagcat acaaaatgta ctgttactaa aacagctaat    1860

tatttctctc tcccccttttg acaggaaggg gcttcagttg ttcctccatg gctagaacca    1920

taataaacaa tgtacccgta atttgtaaca taaagtattg caatatgtta gtaacaatct    1980

tgcagccttc ctttccaaag ttcattttat tttgatcagt tcagtatatt gcactaatta    2040

ttttaggtat tttcattata tgaaagctac catgtgtcag agatgattta atctatttaa    2100

gtgttggact gctaggagaa cttgtacatt tatgataatg cagaattagg aaaacggttc    2160

accagtgttt agttttatat tgaggtgctc aggttggaat aaagtggtat aaaaagcaaa    2220

aaaaaaaaaa aa                                                         2232
```

```
<210>   19
<211>   1590
<212>   DNA
<213>   Homo sapiens

<400>   19
cccgtccgag ccccggcccc aagtaacgcc gccgccccgg agccgccttg gaggtccccc      60

tccccactaa gtgcctcttt gcatagcacc agtccccacc cgcacgctct ctggaccact     120

acagctggac gggcaatggc gggtcgggga ggcgcacgac gacccaatgg accagctgct     180

gggaacaaga tctgtcaatt taagctggtt ctgctggggg agtctgcggt aggcaaatcc     240

agcctcgtcc tccgctttgt caagggacag tttcacgagt accaggagag cacaattgga     300

gcggccttcc tcacacagac tgtctgcctg gatgacacaa cagtcaagtt tgagatctgg     360

gacacagctg acaggagcg gtatcacagc ctggccccca tgtactatcg gggggcccag     420

gctgccatcg tggtctatga catcaccaac acagatacat ttgcacgggc caagaactgg     480

gtgaaggagc tacagaggca ggccagcccc aacatcgtca ttgcactcgc gggtaacaag     540

gcagacctgg ccagcaagag agccgtggaa ttccaggaag cacaagccta tgcagacgac     600

aacagtttgc tgttcatgga gacatcagca aagactgcaa tgaacgtgaa cgaaatcttc     660
```

```
atggcaatag ctaagaagct tcccaagaac gagccccaga atgcaactgg tgctccaggc      720

cgaaaccgag gtgtggacct ccaggagaac aacccagcca gccggagcca gtgctgcagc      780

aactgagccc cccttgcctg cccgctgccc ccgcctcctc cgcctgaatg acccgactgg      840

aatccactct aaccaatcgc acttaacgac tcgggccacc actggggggg cagggggagg      900

ggtccaccat gatttctcca tataattttg atcataggcc ggagtgagtc attccacctg      960

cacctttctg tacaaatact aattcaattt taagtcttaa gtcacttttt taatatatat     1020

gatcttctgc tcttcccact tcctcccctt tctactgctc tcccattttc ccttgctggg     1080

agtagccaca tgctcttgcc ccccaaccct tgtatatggg gacagtgggg tcagtgcagc     1140

taccctttct ttcctctcgg acagcgacca gaagagcatc acatctcact ttgttcggag     1200

tggtctttgg tttgggcggt ggggtagacc ttgggaaggg gttaggaagg gagaggcagc     1260

tcttccttca gctggctctc atcaggctgc agccccctcc ccgctcccac ctccctgctg     1320

ggaaaccaca gcattatcac agcattattg tgacagccac gaacccattg cccacaaccc     1380

ctccaccctc ggtcacccca acctctggct ctgagccctg ttctgaccaa atcatgatga     1440

tgagtatttg ggggtgggtg ggtaaggggg ggagtgggag gggacggaac caactttttc     1500

tgtattttgt attgtatgtt ttcttcaaca tgtaaccaat cagtatcttg tcaatatagt     1560

cagccgatcg atcgacctca aaaaaaaaaa                                      1590
```

```
<210>    20
<211>    2378
<212>    DNA
<213>    Homo sapiens

<400>    20
tttttttttt tttttttttt tttgaaacct aaaacgttaa tgtgatcttt attatacagc       60

acatctggta tttgtgtatc ccaacaagta tacagaatac tctataaaac caaacccaac      120

ccttcaatat tacactaatg aagattaacc cagagtcgca tctcttcaaa atgcacacaa      180

ttaagacggt cctgctgtaa caatattatg gaaagagcca ggtagcacaa gaaaggagag      240

aggataaaga ctgaagtgtg tgccaaagtc attgtctttt gttattgcac ttttattcta      300

cacacttagt atcttacact tttatttaac actgtaataa acattagtcc tttaaaacaa      360

agaaaaaaca ttacatgaag acaaaagaca acaggctgcc cagaccaatt ttcttttcaa      420

ctatctgggc aaggtggcct ccccagtgct agatgtcctg atgcacctct gagatcacct      480

caattggact ggatgttaac aaaacagatg aagttaaaaa tgaaacccct ttaggaacag      540

tagtgctact ggaaacctcc aggagagttt ggaatacaag tgtctcaagg ccactccctc      600

cttacccact ttaacatcaa acaagctcta ttcatcccac ctccataact gaaggattaa      660

ccttcttttt ctttttcttt tttttttttt tgagatggag tcttgctctg ctgcccaggc      720
```

```
tggagtgcag tggtgtgatc ttggctcaat gcagcctctg tctcctgggt tcaagcaatt     780

ctcctacctc agcctcccga gtagctggga ctacagttgg aggtccccct ccccactaag     840

tgcctctttg catagcacca gtccccaccc gcacgctctc tggaccacta cagctggacg     900

ggcaatggcg ggtcggggag gcgcagcacg acccaatgga ccagctgctg ggaacaagat     960

ctgtcaattt aagctggttc tgctggggga gtctgcggta ggcaaatcca gcctcgtcct    1020

ccgctttgtc aagggacagt ttcacgagta ccaggagagc acaattggag cggccttcct    1080

cacacagact gtctgcctgg atgacacaac agtcaagttt gagatctggg acacagctgg    1140

acaggagcgg tatcacagcc tggcccccat gtactatcgg ggggcccagg ctgccatcgt    1200

ggtctatgac atcaccaaca cagatacatt tgcacgggcc aagaactggg tgaaggagct    1260

acagaggcag gccagcccca acatcgtcat tgcactcgcg ggtaacaagg cagacctggc    1320

cagcaagaga gccgtggaat tccaggaagc acaagcctat gcagacgaca cagtttgct     1380

gttcatggag acatcagcaa agactgcaat gaacgtgaac gaaatcttca tggcaatagc    1440

taagaagctt cccaagaacg agccccagaa tgcaactggt gctccaggcc gaaaccgagg    1500

tgtggacctc caggagaaca acccagccag ccggagccag tgctgcagca actgagcccc    1560

ccttgcctgc ccgctgcccc cgcctcctcc gcctgaatga cccgactgga atccactcta    1620

accaatcgca cttaacgact cgggccacca ctggggggggc agggggaggg gtccaccatg    1680

atttctccat ataattttga tcataggccg gagtgagtca ttccacctgc acctttctgt    1740

acaaatacta attcaatttt aagtcttaag tcactttttt aatatatatg atcttctgct    1800

cttcccactt cctcccctttt ctactgctct cccattttcc cttgctggga gtagccacat    1860

gctcttgccc cccaacccctt gtatatgggg acagtggggt cagtgcagct acccctttctt    1920

tccctcctgc ggaacagcgg acccagcaag agcatccaca tcctcacttt gttcggagtg    1980

gtctttggtt tgggcggtgg ggcagacttt gggaaggggc ttaggaaggg agaggcagct    2040

cttccttcag ctggctctca tcaggctgca gcccctccc cgctcccacc tccctgctgg    2100

gaaaccacag cattatcaca gcattattgt gacagccacg aacccattgc ccacaacccc    2160

tccaccctcg gtcaccccaa cctctggctc tgagccctgt tctgaccaaa tcatgatgat    2220

gagtatttgg gggtgggtgg gtaaggggggg gagtgggagg ggacggaacc aactttttct    2280

gtattttgta ttgtatgttt tcttcaacat gtaaccaatc agtatcttgt caatatagtc    2340

agccgatcga tcgacctcaa aaaaaaaaaa aaaaaaaa                             2378
```

<210> 21
<211> 1529
<212> DNA
<213> Homo sapiens

<400> 21
```
cttacactaa gtgcctcttt gcatagcacc agtccccacc cgcacgctct ctggaccact      60
acagctggac gggcaatggc gggtcgggga ggcgcacgac gacccaatgg accagctgct     120
gggaacaaga tctgtcaatt taagctggtt ctgctggggg agtctgcggt aggcaaatcc     180
agcctcgtcc tccgctttgt caagggacag tttcacgagt accaggagag cacaattgga     240
gcggccttcc tcacacagac tgtctgcctg gatgacacaa cagtcaagtt tgagatctgg     300
gacacagctg gacaggagcg gtatcacagc ctggccccca tgtactatcg gggggcccag     360
gctgccatcg tggtctatga catcaccaac acagatacat ttgcacgggc caagaactgg     420
gtgaaggagc tacagaggca ggccagcccc aacatcgtca ttgcactcgc gggtaacaag     480
gcagacctgg ccagcaagag agccgtggaa ttccaggaag cacaagccta tgcagacgac     540
aacagtttgc tgttcatgga gacatcagca aagactgcaa tgaacgtgaa cgaaatcttc     600
atggcaatag ctaagaagct tcccaagaac gagccccaga atgcaactgg tgctccaggc     660
cgaaaccgag gtgtggacct ccaggagaac aacccagcca gccggagcca gtgctgcagc     720
aactgagccc cccttgcctg cccgctgccc ccgcctcctc cgcctgaatg acccgactgg     780
aatccactct aaccaatcgc acttaacgac tcgggccacc actgggggg cagggggagg      840
ggtccaccat gatttctcca tataattttg atcataggcc ggagtgagtc attccacctg     900
cacctttctg tacaaatact aattcaattt taagtcttaa gtcacttttt taatatatat     960
gatcttctgc tcttcccact tcctcccctt tctactgctc tcccattttc ccttgctggg    1020
agtagccaca tgctcttgcc ccccaaccct tgtatatggg gacagtgggg tcagtgcagc    1080
taccctttct ttccctctgc ggaacagcgg acccagcaag agcatccaca tcctcacttt    1140
gttcggagtg gtctttggtt tgggcggtgg ggcagacctt gggaaggggc ttaggaaggg    1200
agaggcagct cttccttcag ctggctctca tcaggctgca gcccccctccc cgctcccacc   1260
tccctgctgg gaaaccacag cattatcaca gcattattgt gacagccacg aacccattgc    1320
ccacaacccc tccaccctcg gtcaccccaa cctctggctc tgagccctgt tctgaccaaa    1380
tcatgatgat gagtatttgg gggtgggtgg gtaagggggg gagtgggagg ggacggaacc    1440
aactttttct gtattttgta ttgtatgttt tcttcaacat gtaaccaatc agtatcttgt    1500
caatatagtc agccgatcga tcgacctca                                      1529
```

<210> 22
<211> 1630
<212> DNA
<213> Homo sapiens

<400> 22
```
cccattctga taatctggcc atgactagca gaagcacagc taggcccaat gggcaacccc      60
aggccagcaa aatttgccag ttcaaattgg tcctgctggg agaatctgca gtgggaaagt     120
```
```
                              Page 20
```

```
caagcctggt attacgtttt gtcaaagggc agttccatga gtaccaggag agcaccattg      180

gagcggcctt cctcacccag tccgtttgtc tagatgacac aacagtgaag tttgagatct      240

gggacacagc tgggcaggag cgatatcaca gcttagcccc catgtactac aggggtgccc      300

aagctgcaat cgtggtttac gacattacta atcaggaaac ctttgcccga gcaaagacat      360

gggtgaagga actacagcga caggccagtc ctagcatcgt tattgccctg gcagggaaca      420

aagctgacct ggccaacaaa cgtatggtgg agtatgaaga ggcccaggca tatgcagatg      480

acaacagctt attgttcatg gagacttcag ccaagacagc tatgaacgtg aatgatctct      540

tcctggcaat agctaagaag ttgccaaaga gtgaacccca gaatctggga ggtgcagcag      600

gccgaagccg gggtgtggat ctccatgaac agtcccagca gaacaagagc cagtgttgta      660

gcaactgagg gggtggctag cagcaaacaa gtatggagct agcacaagag ctaagaaata      720

accgccatcc ctacccctcg acacacaacc cctacggtac agcacactag ccctggctcc      780

aagggctgcc tcctgacagc tccgtcatgg cactttttaa cgcttcagca caaacacca      840

ggcagctgtt ccgactggcc tcctaccccc tactctgggg cttgggggtc aactcccccc      900

aggacttacc ttccaaaaca aactttcttc acttgtatta taggtacaag acagcgactt      960

acgtatcttt tctcctcctc cctagtgttc ctccccgatt ttttcagaaa acacttctga     1020

ctcctgtccc ttcccottct gctttttggtc agtccctgtt cttgagcctc ttttctcctc     1080

tccccaggat gctgtttgtg gtgaacccag gaactgagaa ggaggtttcc agttcattta     1140

cattaagggc ctgggggaga taaagctcga gcaggaggga gtaaggaaac attccttttt     1200

gtttttattt ggttggagtt tctcatattt gaaaacattg cggtatccat gatttggcct     1260

tgtggagggt gttcctaggt agaggtgaga atggggaggc aagatctcag ggacaccaag     1320

caggaggtgc cgggtaagct aactgggcgg aggtggaggt gcagggtcaa ctgtggctct     1380

gtaactcttc aaaggccagt ttcccctcac gcagcctctt aggtagcgtt tcccctaatg     1440

gtgtttcccc taatcgtggg gttggacccc agagtcttcc aaagaatttt cactggttgc     1500

ctacgtcttt ggctctgctg tagtctgatt ggaggaggga cagtttctgg tacccatcct     1560

ctgatttata catatgcgtt ttttcccctc tggcctttag atggcctcag ccccagccac     1620

catatacccg                                                           1630
```

```
<210>    23
<211>    2493
<212>    DNA
<213>    Homo sapiens

<400>    23
aactgagggg gtggctagca gcaaacaagt atggagctag cacaagagct aagaaataac       60

ctccatccct accactcagc acacaacccc tacggtccca gcacactgag ccctggctcc      120
```

```
caagggctgc ctcctgacag ctccgtcatg gcactttta acgcttcagc aacaaacacc      180

aggcagctgt tgccactggc ctcctacccc tactctgggg cttgggggtc actcccccca      240

ggacttacct tccaaaacaa actttcttca ctttgtatta taggtacaag acagcgactt      300

acgtatcttt tctcctcctc cctagtgttc ctccccattt tttcagaaaa cacttctgac      360

tcctgtccct tccccttctg cttttggtca gtccctgttc ttgagcctct tttctcctct      420

ccccaggatg cagaaagtgg tgaacccagg aactgaggaa ggaggtttcc agttcattta      480

cattaagggc cctgggggag aataaagctc agagcaggag ggagtaagga aacatttcct      540

ttttgttttt atttggttgg agtttctcat atttgaaaac attgcggtat ccatgatttg      600

gccttgtgga gggtgttcct aggtagaggt gagaatgggg aggcaagatc tcaggcacca      660

ggcaggaggt gccttgtaag ctaactgggc ggaggtggag gtgcagtgtc aactgtggct      720

ctgtaactct tcaaaggccc agtttcccct cacgcagcct cttaggtagc gtttccccta      780

atcgtggggg ttggacccca gagtcttcca aagaattttc actggttgcc tgcatctttg      840

gctctgctgt gatctgattg gaggagggac agtttctggt acccatcctc tgatttatac      900

atatgcattt tttcccctct ggcctttaga tggcctcagc cccagccacc atatacccct      960

gcagtttgca cttaattga tggtagttca gttggggtac ttgtttatg gaagttttga     1020

ttgatttact tgccctccca ccttcttttt aattcaatga aatctgaggt taatgcgagg     1080

ttcgaggaga ggttatagat aaaactacca gtggcagcta ctcaagtcct atctccactg     1140

ttagcttcct ccaactctaa ttattaacct atattcttgc caagctaact attgactata     1200

ggtttgcctt tcctggagaa ttaattgagc aattgaggag tgtctcagga tagcacaggc     1260

caaggtaggg gagtaaaaag gaggtcaggc aaaagggagg agttttctgt cctttcccag     1320

gtttcacact caatttgata tccattacca tgtcttttct acttccttgt aaataggtat     1380

gatctttatt cccactgtac agtctgttct atcctctgcc tcccatcagg ccctgtttct     1440

ttgttccttt gttaatatct tgaatttagt ccctccatcc ttaatccccc catccctccc     1500

catcatgcaa ccagtggttt aatccatgta ccaatagggg ctagtaccac agaggcctcc     1560

tgtggtgccc tcgtatcata ccacctgttc ctgtggagag ggaatgaccg gcactgaagg     1620

taccttacaa ctggctcata ttatcagagg accttggtcc tttctaaatc tctagtctct     1680

cttcatatcc ttcatcaggt gttttaagat gtctctgaga agccatcaag gcaaaagaga     1740

actttaagtt ccttgttcca gcccggagtt ttgggaaaga aagaaaggaa aggtcacagt     1800

gacctaggat tggaaccttc ctgccctttt ggcttgcaga ctgccttcta tcccagaaca     1860

gctgagaaat ctatgaagct gagattctga aggacccagc ttaggttctt ccacttaagg     1920

cctcaattcc cttccttttc caaggggcag ccttagttcc catggccctg aaacacacac     1980
```

```
atttccccct tcctttccca gaagccactg gcccccata gcacccagtg catccttttt    2040

acaagtggaa gaactaggat ggctttccaa agtcttctag aaatgaagtt ctttctctgt    2100

gcagctttcc cccttggagc aggagtgaag atgtttcatt atcttgggcc tgggaaacca    2160

cttccccagg cttctccctc cccccacccc cataggaaca ggatttggcc ttagcttcgt    2220

gggcctatcg gctgccttcc ctctacttcc taccacctct tctgccttcc tttgagctct    2280

gttgggcttg gggatcttag ttttcttttg tttatttccc agctcatttt tttcttctgg    2340

tcagtttttt taagggggg tgttgtggtt ttttgttttt gttttgcttc tgagaaagca    2400

tttgcctttc ttcctctccc aacataacaa tcgtggtaac agaatgcgac tgctgattta    2460

ccgatgtatt taatgtaagt aaaaaaagga aaa                                 2493
```

<210> 24
<211> 1728
<212> DNA
<213> Homo sapiens

<400> 24

```
ccaagatggc ggcggcggcg gctcccggaa ggccgcggcg gcgtcccggc tgctaaggcg      60

ggccccacgc ggctggcagc ggacaggccg gacctacggc cggaggacgg gcggcagccg     120

cctctgcgcg gaccgggggct gggccgtgcg gcggcagcgg cgccaaggga tgctcttgct     180

gggcctgcct ctccttctc aacttaaggc ggcggcgggc cgcgccctgg ctcccgggcc     240

atggcgctga gggagctcaa agtgtgtctg ctcggggata caggtgtagg taaatcgagt     300

attgtgtggc ggtttgtgga agacagtttt gatccaaaca tcaacccaac aataggggca     360

tcttttatga ccaagactgt ccagtaccaa aatgagctac ataaattcct aatctgggat     420

acagctggac aagaacgatt tcgtgcctta gcaccaatgt actatcgagg gtcggctgca     480

gctataatcg tttatgatat cacaaaagaa gagacatttt caacattaaa gaattgggtg     540

aaagagcttc gacagcatgg cccacctaat attgtagttg ccattgcagg aaataaatgt     600

gatcttatcg atgtaagaga agtcatggag agagatgcaa aggactacgc cgactctatt     660

catgcaattt ttgtagagac cagcgcaaaa aacgcgataa acataaatga actctttata     720

gaaattagtc gaagaattcc atccactgac gccaacctgc catctggcgg taagggcttc     780

aaactccgaa gacagccttc agagccaaag cggagctgct gctgaccgaa cctcagcctc     840

tcagacttga tgatgaagta ggtggtcctg aaagttaaca ggagggctgg ggtccctgcc     900

accagttttc acctagccag tcttgagtct tgtccgtgca aaaaggattc acagaaatgg     960

accagttctg ttctccaaag actgcagcaa tgatatttca gtctgtgaac ttctattatg    1020

taaagaatct ctagtgtaca aagggactac atcgttggct tttgaccttg ctgaaaagga    1080

acatataatt gtatggatgg taggattaag ttgttgagta gttttgtaat caagatttta    1140
```

tgtaacattt gtaaagggaa aattagcact tttgtggttc ttaagggaaa agaaacagac   1200

cttgtggaga ttataatttc cttggtttct gttaccactg ttagagggag ttgtatcaat   1260

ttaacatata gtaaggatag tttaagtgta gggaggacaa taattgtctg taagctaaaa   1320

tgggttattt ataggactga tggaaatgat ttcatctctg ccatctctaa agcacttttc   1380

attgaacatg ttagcctagg atacgtacag taaattaaca atgatagcag cagatgccta   1440

gctcatcctg ggtttgcttc tgaccttgtc atgtgtgtgc caccaaacac gttattggca   1500

ccttttaaa taagctctca tgatcaagat ggtgatggta gagaagctgc ccggaataaa   1560

ctgaatttca tatgttctaa aatgactagc aatggtttaa aaaggaagaa gagtggaagt   1620

gaagaaggtg gtataaatgc tgtcaatttt tttttaaccc aagtattttg gtggggaaaa   1680

gcaagtatct attgcttagc atatgtaaag ttgtagtcta tatttatg   1728

<210> 25
<211> 1755
<212> DNA
<213> Homo sapiens

<400> 25
ggcgggcccc acgcggctgg cagcggacag gccggaccta cggccggagg acgggcggca   60

gccgcctctg cgcggaccgg ggctgggccg tgcggcggca gcggcgccag gggatgctct   120

tgctgggcct ggcctctccc ttctcaactt agggcggcgg cgggcccgcg cccctggctc   180

ccgggccatg gcgctgaggg agctcaaagt gtgtctgctc ggggatacag gtgtaggtaa   240

atcgagtatt gtgtggcggt ttgtggaaga cagttttgat ccaaacatca acccaacaat   300

aggggcatct tttatgacca agactgtcca gtaccaaaat gagctacata aattcctaat   360

ctgggataca gctggacaag aacgatttcg tgccttagca ccaatgtact atcgagggtc   420

ggctgcagct ataatcgttt atgatatcac aaaagaagag acattttcaa cattaaagaa   480

ttgggtgaaa gagcttcgac agcatggccc acctaatatt gtagttgcca ttgcaggaaa   540

taaatgtgat cttatcgatg taagagaagt catggagaga gatgcaaagg actacgccga   600

ctctattcat gcaatttttg tagagaccag cgcaaaaaac gcgataaaca taaatgaact   660

ctttatagaa attagtcgaa gaattccatc cactgacgcc aacctgccat ctggcggtaa   720

gggcttcaaa ctccgaagac agccttcaga gccaaagcgg agctgctgct gaccgaacct   780

cagcctctca gacttgatga tgaagtaggt ggtcctgaaa gttaacagga gggctggggt   840

ccctgccacc agttttcacc tagccagtct tgagtcttct ccgtgcaaaa aggattcaca   900

gaaatggacc agttctgttc tccaaagact gcagcaatga tatttcagtc tgtgaacttc   960

tattatgtaa agaatctcta gtgtacaaag ggactacatc gttggctttt gaccttgctg   1020

aaaaggaaca tataattgta tggatggtag gattaagttg ttgagtagtt ttgtaatcaa   1080

```
gattttatgt aacatttgta aagggaaaat tagcactttt gtggttctta agggaaaaga      1140

aacagacctt gtggagatta taatttcctt ggtttctgtt accactgtta gagggagttg      1200

tatcatttaa catatagtag gatagtttaa gtgtagggag gacaattatt gtctgaagct      1260

aaaatgggtt atttatagga ctgatggaaa tgatttcatc tctgccatct ctaaagcact      1320

tttcattgaa catgttagcc taggatacgt acagtaaatt aacaatgata gcagcagatg      1380

cctagctcat cctgggtttg cttctgacct tgtcatgtgt gtgccaccaa acacgttatt      1440

ggcacctttt taaataagct ctcatgatca agatggtgat ggtagagaag ctgcccggaa      1500

taaactgaat ttcatatgtt ctaaaatgac tagcaatggt ttaaaaagga agaagagtgg      1560

aagtgaagaa ggtggtataa atgctgtcaa ttttttttta acccaagtat tttggtgggg      1620

aaaagcaagt atctattgct tagcatatgt aaagttgtag tctatattta tggggccatt      1680

gcttaaagat tataaattat gtaaatacat taataaattc taagtttcat ttgacattcc      1740

aaaaaaaaaa aaaaa                                                        1755
```

```
<210>  26
<211>  2242
<212>  DNA
<213>  Homo sapiens

<400>  26
ggcggctccc ggaaggccgc ggcggcgtcc cggctgctaa ggcgggcccc acgcggctgg       60

cagcggacag gccggaccta cggccggagg acgggcggca gccgcctctg cgcggaccgg      120

gactgggccg tgcggcggca gcggcgccag gggatgctct tgctgggcct ggcctctccc      180

ttctcaactt agggcggcgg cgggcccgcg cccctggctc ccgggccatg gcgctgaggg      240

agctcaaagt gtgtctgctc ggggatacag gtgtaggtaa atcgagtatt gtgtggcggt      300

ttgtggaaga cagttttgat ccaaacatca acccaacaat aggggcatct tttatgacca      360

agactgtcca gtaccaaaat gagctacata aattcctaat ctgggataca gctggacaag      420

aacgatttcg tgccttagca ccaatgtact atcgagggtc ggctgcagct ataatcgttt      480

atgatatcac aaaagaagag acattttcaa cattaaagaa ttgggtgaaa gagcttcgac      540

agcatggccc acctaatatt gtagttgcca ttgcaggaaa taaatgtgat cttatcgatg      600

taagagaagt catggagaga gatgcaaagg actacgccga ctctattcat gcaatttttg      660

tagagaccag cgcaaaaaac gcgataaaca taaatgaact ctttatagaa attagtcgaa      720

gaattccatc cactgacgcc aacctgccat ctggcggtaa gggcttcaaa ctccgaaaac      780

agccttcaga gccaaagcgg agctgctgct gaccgaacct cagcctctca gacttgatga      840

tgaagtaggt ggtcctgaaa gttaacagga gggctggggt ccctgccacc agttttcacc      900

tagccagtct tgagtcttct ccgtgcaaaa aggattcaca gaaatggacc agttctgttc      960
```

```
tccaaagact gcagcaatga tatttcagtc tgtgaacttc tattatgtaa agaatctcta   1020

gtgtacaaag ggactacatc gttggctttt gaccttgctg aaaaggaaca tataattgta   1080

tggatggtag gattaagttg ttgagtagtt ttgtaatcaa gattttatgt aacatttgta   1140

aagggaaaat tagcactttt gtggttctta agggaaaaga aacagacctt gtggagatta   1200

taatttcctt ggtttctgtt accactgtta gagggagttg tatcatttaa catatagtag   1260

gatagtttaa gtgtagggag gacaattatt gtctgaagct aaaatgggtt atttatagga   1320

ctgatggaaa tgatttcatc tctgccatct ctaaagcact tttcattgaa catgttagcc   1380

taggatacgt acagtaaatt aacaatgata gcagcagatg cctagctcat cctgggtttg   1440

cttctgacct tgtcatgtgt gtgccaccaa acacgttatt ggcacctttt taaataagct   1500

ctcatgatca agatggtgat ggtagagaag ctgcccggaa taaactgaat ttcatatgtt   1560

ctaaaatgac tagcaatggt ttaaaaagga agaagagtgg aagtgaagaa ggtggtataa   1620

atgctgtcaa ttttttttta acccaagtat tttggtgggg aaaagcaagt atctattgct   1680

tagcatatgt aaagttgtag tctatattta tggggccatt gcttaaagat tataaattat   1740

gtaaatacat taataaattc taagtttcat ttgacattcc attgaatctc gcacccagtc   1800

ttgcgtatgc ctgcccagtt ttcagcctct taacgggaga ctcaagcaca ttggtattgt   1860

ataaaggtat agagcactta gcttacaatc tttaaaggtt tctctgcctt cccttctacc   1920

cacccgcctc ccaccagatc ccatctggaa atcataataa agacatatgc cactttgaca   1980

aacctgacta gtccttacta gcctgagggt aaaagattaa gctccaacct caagtcattt   2040

acctggtctt ggtaataagt ttcttttagc ttgtacagca tcctcagacc aactgaggag   2100

ctttccttgt taacaattta gcttatcttt ctgtttcctt tatttttccc ctgcctctgt   2160

tagtggttaa cactcttttc cctcagggag cctaatgagg tttttaatat catctaaaaa   2220

taaagcattg aagtgaaaaa aa                                            2242
```

```
<210>  27
<211>  1982
<212>  DNA
<213>  Homo sapiens

<400>  27
aaaaaaaaaa aaaaaaactc agttgcctct ggccagtgca gggctcagcc agggatggct    60

tctagctgac agtgggagga attaattcat ctgaccggaa tattcttttc tcttctgggc   120

tgttggtttt tcaagtgcaa caaagattcc atacagctcc aaggaaggag ccaagaaaaa   180

cattctgtgc caaagtgaga tcctggaagt gaaaccccgg aataaagctg aaaagcgggc   240

tccagttggg tgccaggaaa tgcaggactg gaatgtgact tgacttccgg cagcgcgcag   300

gtgctcccgg gtcacctgct ttgaggtcca gcctcctgcc ctgcctcagg tgaccacatg   360
```

```
accactgtgg actttgccct gaaaccttct gggaggagaa gaggcctgac cttggcgctg    420

gggtccagtg ggcattgctc tggtccgagg ctgctgctct tgacctctgc tctgcggctg    480

ttttccattg gagtagaggc tcctcctgtc ctgtcctgcc tgtggaggga agcaaacctt    540

cccctggacc agagagagga gaaagcggag acaggtagca acgctgtgga ctggtgatga    600

caggctcttc agctccctgc aagtgaccgg gcctggggaa cagggcatgg cacaggcaca    660

caggaccccc cagcccaggg ctgcccccag ccagccccgt gtgttcaagc tggttctcct    720

gggaagtggc tccgtgggta agtccagctt ggctcttcgg tacgtgaaga acgacttcaa    780

gagtatcctg cctacggtgg gctgtgcgtt cttcacaaag gtggtggatg tgggtgccac    840

ctctctgaag cttgagatct gggacacagc tggccaggag aagtaccaca gcgtctgcca    900

cctctacttc aggggtgcca acgctgcgct tctggtgtac gacatcacca ggaaggattc    960

cttcctcaag gctcagcagt ggctgaagga cctggaggag gagctgcacc aggagaagt   1020

cctggtgatg ctggtgggca acaagacgga cctcagccag gagcgggagg tgaccttcca   1080

ggaagggaag gagtttgccg acagccagaa gttgctgttc atggaaactt cggccaaact   1140

gaaccaccag gtgtcggagg tgttcaatac agtggcccaa gagctactgc agagaagcga   1200

cgaggagggc caggctctac gggggggatgc agctgtggct ctgaacaagg ggcccgcgag   1260

gcaggccaaa tgctgcgccc actaggtgca gccactcctg ggggctgtgg ggaagacacc   1320

ccctgcctgg gccatggcca gctctaggtg gattctgatt cactgtcaat gctgggttgc   1380

tcccgagccc tagatgttcc tggaagttgg cccctttat gaaaaccact tcccacagcc   1440

agtgggaact gccagaggaa gatctggcgt cacatggctc ccaggaaagt gctgtgccct   1500

atccccactg ataccatctg attccccgat gcctgtgcct gttccacctg gacggtggcc   1560

ccctcagcct ggcagcctct ggacagagag gaaggaagga ttggaaaagt ccccgcagca   1620

cagcgacggt gggaagatgc cttacgtctg atcttgatgg gggcactggc ctggagcctg   1680

ggcccacctg cttctggggg gttggggagc aggccagatg gaggtggtgg tgccaggaag   1740

aaatggagcg atgactgact gtggggtggg cccaggattt ccacatcttg gtgaagttgc   1800

ccctgggaag ggcagctggg ggcagtggcg ccagttccct tccatggtct cccggctggc   1860

aatgtggtga agctgagttt ctgtccaatg agcaggaaga ttctgagaca tttcgcctga   1920

gatataagtt gtactgcgta tgcagttttt cctccaaaaa ttaaattgct tttgacaatc   1980

tg                                                                  1982
```

```
<210>  28
<211>  1608
<212>  DNA
<213>  Homo sapiens

<400>  28
```

```
ccctgaaacc ttctgggagg agaagaggcc tgaccttggc gctggggtcc agtgggcatt        60

gctctggtcc gaggctgctg ctcttgacct ctgctctgcg gctgttttcc attggagtag       120

aggctcctcc tgtcctgtcc tgcctgtgga gggaagcaaa ccttcccctg gaccagagag       180

aggagaaagc ggagacaggt agcaacgctg tggactggtg atgacaggct cttcagctcc       240

ctgcaagtga ccgggcctgg ggaacagggc atggcacagg cacacaggac cccccagccc       300

agggctgccc ccagccagcc ccgtgtgttc aagctggttc tcctgggaag tggctccgtg       360

ggtaagtcca gcttggctct tcggtacgtg aagaacgact tcaagagtat cctgcctacg       420

gtgggctgtg cgttcttcac aaaggtggtg gatgtgggtg ccacctctct gaagcttgag       480

atctgggaca cagctggcca ggagaagtac cacagcgtct gccacctcta cttcaggggt       540

gccaacgctg cgcttctggt gtacgacatc accaggaagg attccttcct caaggctcag       600

cagtggctga aggacctgga ggaggagctg cacccaggag aagtcctggt gatgctggtg       660

ggcaacaaga cggacctcag ccaggagcgg gaggtgacct ccaggaagg gaaggagttt       720

gccgacagcc agaagttgcc gttcatggaa acttcggcca aactgaacca ccaggtgtcg       780

gaggtgttca atacagtggc ccaagagcta ctgcagagaa gcgacgagga gggccaggct       840

ctacggggggg atgcagctgt ggctctgaac aaggggcccg cgaggcaggc caaatgctgc       900

gcccactagg tgcagccact cctgggggct gtggggaaga cacccctgc ctgggccatg       960

gccagctcta ggtggattct gattcactgt caatgctggg ttgctcccga gccctaggtg      1020

ttcctggaag ttggccccct ttatgaaaac cacttcccac agccagtggg aactgccaga      1080

ggaagatctg gcgtcacatg gctcccagga aagtgctgtg ccctatcccc actgatacca      1140

tctgattccc cgatgcctgt gcctgttcca cctggacggt ggcccctca gcctggcagc      1200

ctctggacag agaggaagga aggattggaa aagtccccgc agcacagcga cggtgggaag      1260

atgccttacg tctgatcttg atgggggcac tggcctggag cctgggccca cctgcttctg      1320

gggggttggg gagcaggcca gatggaggtg gtggtgccaa gaagaaatgg agcgatgact      1380

gactgtgggg tgggcccagg atttccacat cttggtgaag ttgcccctgg gaagggcagc      1440

tgggggcagt ggcgccagtt cccttccatg gtctcccggc tggcaatgtg gtgaagctga      1500

gtttctgtcc aatgagcagg aagattctga gacatttcgc ctgagatata agttgtactg      1560

cgtatgcagt ttttcctcca aaaattaaat tgctttcgaa aaaaaaaa                   1608
```

```
<210>   29
<211>   921
<212>   DNA
<213>   Homo sapiens

<400>   29
ccctcggacg gccccggagg atgctgctga gccccggcac tgcctggctg cgagcacatg        60
```

```
atggcgatac gggagctcaa agtgtgcctt ctcggggaca ctggggttgg gaaatcaagc    120

atcgtgtgtc gatttgtcca ggatcacttt gaccacaaca tcagccctac tattggggca    180

tcttttatga ccaaaactgt gccttgtgga aatgaacttc acaagttcct catctgggac    240

actgctggtc aggaacggtt tcattcattg gctcccatgt actatcgagg ctcagctgca    300

gctgttatcg tgtatgatat taccaagcag gattcatttt ataccttgaa gaaatgggtc    360

aaggagctga aagaacatgg tccagaaaac attgtaatgg ccatcgctgg aaacaagtgc    420

gacctctcag atattaggga ggttcccctg aaggatgcta aggaatacgc tgaatccata    480

ggtgccatcg tggttgagac aagtgcaaaa aatgctatta atatcgaaga gctctttcaa    540

ggaatcagcc gccagatccc acccttggac ccccatgaaa atggaaacaa tggaacaatc    600

aaagttgaga agccaaccat gcaagccagc cgccggtgct gttgacccaa gggcgtggtc    660

cacggtactt gaagaagcca gagcccacat cctgtgcact gctgaaggac cctacgctcg    720

gtggcctggc acctcacttt gagaagagtg agcacactgg ctttgcatcc tggaaggcct    780

gcaggggggcg gggcaggaaa tgtacctgaa aaggatttta gaaaaccctg ggaaacccac    840

cacaccacca caaaatggcc tttagtgtat gaaatgcaca tggaggggat gtagttgcat    900

ttttgctaaa aaaaaaaaa a    921
```

```
<210>  30
<211>  967
<212>  DNA
<213>  Homo sapiens

<400>  30
cgcgagcgag gggcagaggc gagagacgcc ggcggggcgc gggcgcggcg gccccggagg    60

atgctgctga gccccggcac tgcctggctg cgagcacatg atggcgatac gggagctcaa    120

agtgtgcctt ctcggggaca ctggggttgg gaaatcaagc atcgtgtgtc gatttgtcca    180

ggatcacttt gaccacaaca tcagccctac tattggggca tcttttatga ccaaaactgt    240

gccttgtgga aatgaacttc acaagttcct catctgggac actgctggtc aggaacggtt    300

tcattcattg gctcccatgt actatcgagg ctcagctgca gctgttatcg tgtatgatat    360

taccaagcag gattcatttt ataccttgaa gaaatgggtc aaggagctga aagaacatgg    420

tccagaaaac attgtaatgg ccatcgctgg aaacaagtgc gacctctcag atattaggga    480

ggttcccctg aaggatgcta aggaatacgc tgaatccata ggtgccatcg tggttgagac    540

aagtgcaaaa aatgctatta atatcgaaga gctctttcaa ggaatcagcc gccagatccc    600

acccttggac ccccatgaaa atggaaacaa tggaacaatc aaagttgaga agccaaccat    660

gcaagccagc cgccggtgct gttgacccaa gggccgtggt ccacggtact tgaagaagcc    720

agagcccaca tcctgtgcac tgctgaagga ccctacgctc ggtggcctgg cacctcactt    780
```

```
tgagaagagt gagcacactg gctttgcatc ctggaagacc tgcagggggc ggggcaggaa    840

atgtacctga aaaggatttt agaaaaccct gggaaaaccc accacaccac cacaaaatgg    900

cctttagtgt atgaaatgca catggagggg atgtagttgc atttttgcta aaaaaaaaaa    960

aaaaaaa                                                             967
```

<210> 31
<211> 899
<212> DNA
<213> Homo sapiens

<400> 31
```
cgaggatgct gctgagcccc ggcactgcct ggctgcgagc acatgatggc gatacgggag     60

ctcaaagtgt gccttctcgg ggacactggg gttgggaaat caagcatcgt gtgtcgattt    120

gtccaggatc actttgacca caacatcagc cctactattg gggcatcttt tatgaccaaa    180

actgtgcctt gtggaaatga acttcacaag ttcctcatct gggacactgc tggtcaggaa    240

cggtttcatt cattggctcc catgtactat cgaggctcag ctgcagctgt tatcgtgtat    300

gatattacca agcaggattc attttatacc ttgaagaaat gggtcaagga gctgaaagaa    360

catggtccag aaaacattgt aatggccatc gctggaaaca agtgcgacct ctcagatatt    420

agggaggttc ccctgaagga tgctaaggaa tacgctgaat ccataggtgc catcgtggtt    480

gagacaagtg caaaaaatgc tattaatatc gaagagctct ttcaaggaat cagccgccag    540

atcccaccct ggacccccca tgaaaatgga aacaatggaa caatcaaagt tgagaagcca    600

accatgcaat ccagccgccg gtgctgttga cccaagggcc gtggtccacg tacttgaaga    660

agccagagcc cacatcctgt gcactgctga aggaccctac gctcggtggc ctggcacctc    720

actttgagaa gagtgagcac actggctttg catcctggaa gacctgcagg ggcgggcagg    780

aaatgtacct gaaaaggatt ttagaaaacc ctggaaaacc caccacacca ccaccacaaa    840

atggcctttta gtgtatgaaa tgcacatgga ggggatgtag ttgcattttt gctaaaaaa    899
```

<210> 32
<211> 207
<212> PRT
<213> Homo sapiens

<400> 32

```
Met Thr Ser Arg Lys Lys Val Leu Leu Lys Val Ile Ile Leu Gly Asp
1               5                   10                  15


Ser Gly Val Gly Lys Thr Ser Leu Met Asn Gln Tyr Val Asn Lys Lys
                20                  25                  30


Phe Ser Asn Gln Tyr Lys Ala Thr Ile Gly Ala Asp Phe Leu Thr Lys
            35                  40                  45
```

Glu Val Met Val Asp Asp Arg Leu Val Thr Met Gln Ile Trp Asp Thr
    50   55   60

Ala Gly Gln Glu Arg Phe Gln Ser Leu Gly Val Ala Phe Tyr Arg Gly
65   70   75   80

Ala Asp Cys Cys Val Leu Val Phe Asp Val Thr Ala Pro Asn Thr Phe
            85   90   95

Lys Thr Leu Asp Ser Trp Arg Asp Glu Phe Leu Val Gln Ala Ser Pro
        100   105   110

Arg Asp Pro Glu Asn Phe Pro Phe Val Val Leu Gly Asn Lys Val Asp
        115   120   125

Leu Glu Asn Arg Gln Val Ala Thr Lys Arg Ala Gln Ala Trp Cys Tyr
    130   135   140

Ser Lys Asn Asn Ile Pro Tyr Phe Glu Thr Ser Ala Lys Glu Ala Ile
145   150   155   160

Asn Val Glu Gln Ala Phe Gln Thr Ile Ala Arg Asn Ala Leu Lys Gln
            165   170   175

Glu Thr Glu Val Glu Leu Tyr Asn Glu Phe Pro Glu Pro Ile Lys Leu
        180   185   190

Asp Lys Asn Asp Arg Ala Lys Ala Ser Ala Glu Ser Cys Ser Cys
        195   200   205

<210> 33
<211> 207
<212> PRT
<213> Homo sapiens

<400> 33

Met Thr Ser Arg Lys Lys Val Leu Leu Lys Val Ile Ile Leu Gly Asp
1   5   10   15

Ser Gly Val Gly Lys Thr Ser Leu Met Asn Gln Tyr Val Asn Lys Lys
            20   25   30

Phe Ser Asn Gln Tyr Lys Ala Thr Ile Gly Ala Asp Phe Leu Ile Lys
        35   40   45

Glu Val Met Val Asp Asp Arg Leu Val Thr Met Gln Ile Trp Asp Thr
    50   55   60

Ala Gly Gln Glu Arg Phe Gln Ser Leu Gly Val Ala Phe Tyr Arg Gly
65   70   75   80

Ala Asp Cys Cys Val Leu Val Phe Asp Val Thr Ala Pro Asn Thr Phe
                85   90   95

Lys Thr Leu Asp Ser Trp Arg Asp Glu Phe Leu Ile Gln Ala Ser Pro
            100   105   110

Arg Asp Pro Glu Asn Phe Pro Phe Val Val Leu Gly Asn Lys Ile Asp
            115   120   125

Leu Glu Asn Arg Gln Val Ala Thr Lys Arg Ala Gln Ala Trp Cys Tyr
        130   135   140

Ser Lys Asn Asn Ile Pro Tyr Phe Glu Thr Ser Ala Lys Glu Ala Ile
145   150   155   160

Asn Val Glu Gln Ala Phe Gln Thr Ile Ala Arg Asn Ala Leu Lys Gln
                165   170   175

Glu Thr Glu Glu Glu Leu Tyr Asn Glu Phe Pro Glu Pro Ile Lys Leu
            180   185   190

Asp Lys Asn Asp Arg Ala Lys Ala Ser Ala Glu Ser Cys Ser Cys
        195   200   205

<210> 34
<211> 199
<212> PRT
<213> Homo sapiens

<400> 34

Met Asn Pro Arg Lys Lys Val Asp Leu Lys Leu Ile Ile Val Gly Ala
1   5   10   15

Ile Gly Val Gly Lys Thr Ser Leu Leu His Gln Tyr Val His Lys Thr
            20   25   30

Phe Tyr Glu Glu Tyr Gln Thr Thr Leu Gly Ala Ser Ile Leu Ser Lys
        35   40   45

Ile Ile Ile Leu Gly Asp Thr Thr Leu Lys Leu Gln Ile Trp Asp Thr
    50   55   60

Gly Gly Gln Glu Arg Phe Arg Ser Met Val Ser Thr Phe Tyr Lys Gly
65   70   75   80

Ser Asp Gly Cys Ile Leu Ala Phe Asp Val Thr Asp Leu Glu Ser Phe
                85   90   95

Glu Ala Leu Asp Ile Trp Arg Gly Asp Val Leu Ala Lys Ile Val Pro
            100   105   110

Met Glu Gln Ser Tyr Pro Met Val Leu Leu Gly Asn Lys Ile Asp Leu
        115   120   125

Ala Asp Arg Lys Val Pro Gln Glu Val Ala Gln Gly Trp Cys Arg Glu
    130   135   140

Lys Asp Ile Pro Tyr Phe Glu Val Ser Ala Lys Asn Asp Ile Asn Val
145   150   155   160

Val Gln Ala Phe Glu Met Leu Ala Ser Arg Ala Leu Ser Arg Tyr Gln
                165   170   175

Ser Ile Leu Glu Asn His Leu Thr Glu Ser Ile Lys Leu Ser Pro Asp
            180   185   190

Gln Ser Arg Ser Arg Cys Cys
            195

<210> 35
<211> 201
<212> PRT
<213> Homo sapiens

<400> 35

Met Ala Gly Lys Ser Ser Leu Phe Lys Val Ile Leu Leu Gly Asp Gly
1   5   10   15

Gly Val Gly Lys Ser Ser Leu Met Asn Arg Tyr Val Thr Asn Lys Phe
            20   25   30

Asp Thr Gln Leu Phe His Thr Ile Gly Val Glu Phe Leu Asn Lys Asp
        35   40   45

Leu Glu Val Asp Gly His Phe Val Thr Met Gln Ile Trp Asp Thr Ala
    50   55   60

Gly Gln Glu Arg Phe Arg Ser Leu Arg Thr Pro Phe Tyr Arg Gly Ser
65   70   75   80

Asp Cys Cys Leu Leu Thr Phe Ser Val Asp Asp Ser Gln Ser Phe Gln
                85   90   95

Asn Leu Ser Asn Trp Lys Lys Glu Phe Ile Tyr Tyr Ala Asp Val Lys
            100   105   110

Glu Pro Glu Ser Phe Pro Phe Val Ile Leu Gly Asn Lys Ile Asp Ile
        115   120   125

Ser Glu Arg Gln Val Ser Thr Glu Glu Ala Gln Ala Trp Cys Arg Asp
    130   135   140

Asn Gly Asp Tyr Pro Tyr Phe Glu Thr Ser Ala Lys Asp Ala Thr Asn
145   150   155   160

Val Ala Ala Ala Phe Glu Glu Ala Val Arg Arg Val Leu Ala Thr Glu
                165   170   175

Asp Arg Ser Asp His Leu Ile Gln Thr Asp Thr Val Asn Leu His Arg
            180   185   190

Lys Pro Lys Pro Ser Ser Ser Cys Cys
            195   200

<210>   36
<211>   201
<212>   PRT
<213>   Homo sapiens

<400>   36

Met Ser Gly Lys Ser Leu Leu Leu Lys Val Ile Leu Leu Gly Asp Gly
1   5   10   15

Gly Val Gly Lys Ser Ser Leu Met Asn Arg Tyr Val Thr Asn Lys Phe
            20   25   30

Asp Ser Gln Ala Phe His Thr Ile Gly Val Glu Phe Leu Asn Arg Asp
        35   40   45

Leu Glu Val Asp Gly Arg Phe Val Thr Leu Gln Ile Trp Asp Thr Ala
    50   55   60

Gly Gln Glu Arg Phe Lys Ser Leu Arg Thr Pro Phe Tyr Arg Gly Ala
65   70   75   80

Asp Cys Cys Leu Leu Thr Phe Ser Val Asp Asp Arg Gln Ser Phe Glu
                85   90   95

Asn Leu Gly Asn Trp Gln Lys Glu Phe Ile Tyr Tyr Ala Asp Val Lys
            100   105   110

```
Asp Pro Glu His Phe Pro Phe Val Val Leu Gly Asn Lys Val Asp Lys
        115             120             125

Glu Asp Arg Gln Val Thr Thr Glu Glu Ala Gln Thr Trp Cys Met Glu
        130             135             140

Asn Gly Asp Tyr Pro Tyr Leu Glu Thr Ser Ala Lys Asp Asp Thr Asn
145             150             155                     160

Val Thr Val Ala Phe Glu Glu Ala Val Arg Gln Val Leu Ala Val Glu
                165             170             175

Glu Gln Leu Glu His Cys Met Leu Gly His Thr Ile Asp Leu Asn Ser
                180             185             190

Gly Ser Lys Ala Gly Ser Ser Cys Cys
                195             200
```

```
<210>   37
<211>   215
<212>   PRT
<213>   Homo sapiens

<400>   37
```

```
Met Ala Ser Arg Gly Ala Thr Arg Pro Asn Gly Pro Asn Thr Gly Asn
1               5               10              15

Lys Ile Cys Gln Phe Lys Leu Val Leu Leu Gly Glu Ser Ala Val Gly
                20              25              30

Lys Ser Ser Leu Val Leu Arg Phe Val Lys Gly Gln Phe His Glu Phe
        35              40              45

Gln Glu Ser Thr Ile Gly Ala Ala Phe Leu Thr Gln Thr Val Cys Leu
        50              55              60

Asp Asp Thr Thr Val Lys Phe Glu Ile Trp Asp Thr Ala Gly Gln Glu
65              70              75                      80

Arg Tyr His Ser Leu Ala Pro Met Tyr Tyr Arg Gly Ala Gln Ala Ala
                85              90              95

Ile Val Val Tyr Asp Ile Thr Asn Glu Glu Ser Phe Ala Arg Ala Lys
                100             105             110

Asn Trp Val Lys Glu Leu Gln Arg Gln Ala Ser Pro Asn Ile Val Ile
        115             120             125
```

```
Ala Leu Ser Gly Asn Lys Ala Asp Leu Ala Asn Lys Arg Ala Val Asp
    130             135             140
```

```
Phe Gln Glu Ala Gln Ser Tyr Ala Asp Asp Asn Ser Leu Leu Phe Met
145             150             155             160
```

```
Glu Thr Ser Ala Lys Thr Ser Met Asn Val Asn Glu Ile Phe Met Ala
                165             170             175
```

```
Ile Ala Lys Lys Leu Pro Lys Asn Glu Pro Gln Asn Pro Gly Ala Asn
            180             185             190
```

```
Ser Ala Arg Gly Arg Gly Val Asp Leu Thr Glu Pro Thr Gln Pro Thr
            195             200             205
```

```
Arg Asn Gln Cys Cys Ser Asn
    210             215
```

```
<210>   38
<211>   216
<212>   PRT
<213>   Homo sapiens
```

```
<400>   38
```

```
Met Ala Gly Arg Gly Gly Ala Arg Arg Pro Asn Gly Pro Ala Ala Gly
1               5               10              15
```

```
Asn Lys Ile Cys Gln Phe Lys Leu Val Leu Leu Gly Glu Ser Ala Val
            20              25              30
```

```
Gly Lys Ser Ser Leu Val Leu Arg Phe Val Lys Gly Gln Phe His Glu
        35              40              45
```

```
Tyr Gln Glu Ser Thr Ile Gly Ala Ala Phe Leu Thr Gln Thr Val Cys
    50              55              60
```

```
Leu Asp Asp Thr Thr Val Lys Phe Glu Ile Trp Asp Thr Ala Gly Gln
65              70              75              80
```

```
Glu Arg Tyr His Ser Leu Ala Pro Met Tyr Tyr Arg Gly Ala Gln Ala
                85              90              95
```

```
Ala Ile Val Val Tyr Asp Ile Thr Asn Thr Asp Thr Phe Ala Arg Ala
            100             105             110
```

```
Lys Asn Trp Val Lys Glu Leu Gln Arg Gln Ala Ser Pro Asn Ile Val
            115             120             125
```

```
Ile Ala Leu Ala Gly Asn Lys Ala Asp Leu Ala Ser Lys Arg Ala Val
    130                 135             140

Glu Phe Gln Glu Ala Gln Ala Tyr Ala Asp Asp Asn Ser Leu Leu Phe
145             150                 155                 160

Met Glu Thr Ser Ala Lys Thr Ala Met Asn Val Asn Glu Ile Phe Met
                165             170                 175

Ala Ile Ala Lys Lys Leu Pro Lys Asn Glu Pro Gln Asn Ala Thr Gly
            180                 185                 190

Ala Pro Gly Arg Asn Arg Gly Val Asp Leu Gln Glu Asn Asn Pro Ala
            195                 200                 205

Ser Arg Ser Gln Cys Cys Ser Asn
    210                 215
```

<210> 39
<211> 215
<212> PRT
<213> Homo sapiens

<400> 39

```
Met Thr Ser Arg Ser Thr Ala Arg Pro Asn Gly Gln Pro Gln Ala Ser
1               5                 10                  15

Lys Ile Cys Gln Phe Lys Leu Val Leu Leu Gly Glu Ser Ala Val Gly
            20                  25                  30

Lys Ser Ser Leu Val Leu Arg Phe Val Lys Gly Gln Phe His Glu Tyr
        35                  40                  45

Gln Glu Ser Thr Ile Gly Ala Ala Phe Leu Thr Gln Ser Val Cys Leu
    50                  55                  60

Asp Asp Thr Thr Val Lys Phe Glu Ile Trp Asp Thr Ala Gly Gln Glu
65                  70                  75                  80

Arg Tyr His Ser Leu Ala Pro Met Tyr Tyr Arg Gly Ala Gln Ala Ala
                85                  90                  95

Ile Val Val Tyr Asp Ile Thr Asn Gln Glu Thr Phe Ala Arg Ala Lys
            100                 105                 110

Thr Trp Val Lys Glu Leu Gln Arg Gln Ala Ser Pro Ser Ile Val Ile
        115                 120                 125
```

Ala Leu Ala Gly Asn Lys Ala Asp Leu Ala Asn Lys Arg Met Val Glu
    130   135   140

Tyr Glu Glu Ala Gln Ala Tyr Ala Asp Asp Asn Ser Leu Leu Phe Met
145   150   155   160

Glu Thr Ser Ala Lys Thr Ala Met Asn Val Asn Asp Leu Phe Leu Ala
            165   170   175

Ile Ala Lys Lys Leu Pro Lys Ser Glu Pro Gln Asn Leu Gly Gly Ala
            180   185   190

Ala Gly Arg Ser Arg Gly Val Asp Leu His Glu Gln Ser Gln Gln Asn
        195   200   205

Lys Ser Gln Cys Cys Ser Asn
    210   215

<210>   40
<211>   194
<212>   PRT
<213>   Homo sapiens

<400>   40

Met Ala Leu Arg Glu Leu Lys Val Cys Leu Leu Gly Asp Thr Gly Val
1   5   10   15

Gly Lys Ser Ser Ile Val Trp Arg Phe Val Glu Asp Ser Phe Asp Pro
            20   25   30

Asn Ile Asn Pro Thr Ile Gly Ala Ser Phe Met Thr Lys Thr Val Gln
        35   40   45

Tyr Gln Asn Glu Leu His Lys Phe Leu Ile Trp Asp Thr Ala Gly Gln
    50   55   60

Glu Arg Phe Arg Ala Leu Ala Pro Met Tyr Tyr Arg Gly Ser Ala Ala
65   70   75   80

Ala Ile Ile Val Tyr Asp Ile Thr Lys Glu Glu Thr Phe Ser Thr Leu
            85   90   95

Lys Asn Trp Val Lys Glu Leu Arg Gln His Gly Pro Pro Asn Ile Val
            100   105   110

Val Ala Ile Ala Gly Asn Lys Cys Asp Leu Ile Asp Val Arg Glu Val
    115   120   125

Met Glu Arg Asp Ala Lys Asp Tyr Ala Asp Ser Ile His Ala Ile Phe
    130   135   140

Val Glu Thr Ser Ala Lys Asn Ala Ile Asn Ile Asn Glu Leu Phe Ile
145   150   155   160

Glu Ile Ser Arg Arg Ile Pro Ser Thr Asp Ala Asn Leu Pro Ser Gly
            165   170   175

Gly Lys Gly Phe Lys Leu Arg Arg Gln Pro Ser Glu Pro Lys Arg Ser
            180   185   190

Cys Cys

<210> 41
<211> 212
<212> PRT
<213> Homo sapiens

<400> 41

Met Ala Gln Ala His Arg Thr Pro Gln Pro Arg Ala Ala Pro Ser Gln
1   5   10   15

Pro Arg Val Phe Lys Leu Val Leu Leu Gly Ser Gly Ser Val Gly Lys
            20   25   30

Ser Ser Leu Ala Leu Arg Tyr Val Lys Asn Asp Phe Lys Ser Ile Leu
        35   40   45

Pro Thr Val Gly Cys Ala Phe Phe Thr Lys Val Val Asp Val Gly Ala
    50   55   60

Thr Ser Leu Lys Leu Glu Ile Trp Asp Thr Ala Gly Gln Glu Lys Tyr
65   70   75   80

His Ser Val Cys His Leu Tyr Phe Arg Gly Ala Asn Ala Ala Leu Leu
            85   90   95

Val Tyr Asp Ile Thr Arg Lys Asp Ser Phe Leu Lys Ala Gln Gln Trp
            100   105   110

Leu Lys Asp Leu Glu Glu Glu Leu His Pro Gly Glu Val Leu Val Met
            115   120   125

Leu Val Gly Asn Lys Thr Asp Leu Ser Gln Glu Arg Glu Val Thr Phe
    130   135   140
Page 39

Gln Glu Gly Lys Glu Phe Ala Asp Ser Gln Lys Leu Leu Phe Met Glu
145   150   155   160

Thr Ser Ala Lys Leu Asn His Gln Val Ser Glu Val Phe Asn Thr Val
                165   170   175

Ala Gln Glu Leu Leu Gln Arg Ser Asp Glu Glu Gly Gln Ala Leu Arg
            180   185   190

Gly Asp Ala Ala Val Ala Leu Asn Lys Gly Pro Ala Arg Gln Ala Lys
            195   200   205

Cys Cys Ala His
            210

<210> 42
<211> 194
<212> PRT
<213> Homo sapiens

<400> 42

Met Ala Ile Arg Glu Leu Lys Val Cys Leu Leu Gly Asp Thr Gly Val
1   5   10   15

Gly Lys Ser Ser Ile Val Cys Arg Phe Val Gln Asp His Phe Asp His
            20   25   30

Asn Ile Ser Pro Thr Ile Gly Ala Ser Phe Met Thr Lys Thr Val Pro
            35   40   45

Cys Gly Asn Glu Leu His Lys Phe Leu Ile Trp Asp Thr Ala Gly Gln
    50   55   60

Glu Arg Phe His Ser Leu Ala Pro Met Tyr Tyr Arg Gly Ser Ala Ala
65   70   75   80

Ala Val Ile Val Tyr Asp Ile Thr Lys Gln Asp Ser Phe Tyr Thr Leu
                85   90   95

Lys Lys Trp Val Lys Glu Leu Lys Glu His Gly Pro Glu Asn Ile Val
            100   105   110

Met Ala Ile Ala Gly Asn Lys Cys Asp Leu Ser Asp Ile Arg Glu Val
            115   120   125

Pro Leu Lys Asp Ala Lys Glu Tyr Ala Glu Ser Ile Gly Ala Ile Val
    130   135   140

Page 40

Val Glu Thr Ser Ala Lys Asn Ala Ile Asn Ile Glu Glu Leu Phe Gln
145   150   155   160

Gly Ile Ser Arg Gln Ile Pro Pro Leu Asp Pro His Glu Asn Gly Asn
                165   170   175

Asn Gly Thr Ile Lys Val Glu Lys Pro Thr Met Gln Ala Ser Arg Arg
                180   185   190

Cys Cys